



# FCC SAR TEST REPORT

**FCC ID** : A4RG020MN  
**Equipment** : Phone  
**Model Name** : G020M, G020N  
**Applicant** : Google LLC  
1600 Amphitheatre Parkway,  
Mountain View, California, 94043 USA  
**Manufacturer** : Google LLC  
1600 Amphitheatre Parkway,  
Mountain View, California, 94043 USA  
**Standard** : FCC 47 CFR Part 2 (2.1093)  
ANSI/IEEE C95.1-1992  
IEEE 1528-2013

The product was received on Apr. 26, 2019 and testing was started from Apr. 30, 2019 and completed on Jul. 01, 2019. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**  
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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**1. Statement of Compliance**

The maximum results of Specific Absorption Rate (SAR) found during testing for Google LLC, Phone, G020M, G020N, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary			Highest Simultaneous Transmission 1g SAR (W/kg)
		Head (Separation 0mm)	Body-worn (Separation 10mm)	Hotspot (Separation 10mm)	
Licensed	GSM850	1.16	0.65	0.89	1.59
	GSM1900	1.17	0.74	0.95	
	WCDMA II	1.14	0.74	0.97	
	WCDMA IV	1.10	0.91	0.97	
	WCDMA V	1.13	0.65	0.71	
	LTE Band 4	0.54	0.61	0.61	
	LTE Band 7	1.14	1.32	0.95	
	LTE Band 12	1.12	0.36	0.40	
	LTE Band 13	1.12	0.47	0.64	
	LTE Band 25	1.12	0.93	0.98	
	LTE Band 26	1.12	0.61	0.70	
	LTE Band 41	1.10	1.27	0.90	
	LTE Band 66	1.09	0.78	0.95	
LTE Band 71	1.00	0.32	0.33		
DTS	2.4GHz WLAN	0.56	1.09	0.60	1.59
NII	5GHz WLAN	0.46	0.66	0.33	1.59
DSS	Bluetooth	0.13	0.22	0.12	1.59

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications

**Reviewed by: Jason Wang**

**Report Producer: Wan Liu**

**2. Guidance Applied**

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01



### 3. Equipment Under Test (EUT) Information

#### 3.1 General Information

Product Feature & Specification	
Equipment Name	Phone
Model Name	G020M, G020N
FCC ID	A4RG020MN
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2472 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz 60 GHz Low Power Transmitter: 60GHz:58-63.5GHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM WLAN: 802.11a/b/g/n/ac HT20 / HT40 / VHT20 / VHT40 / VHT80 Bluetooth BR/EDR/LE NFC:ASK
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype
<b>Remark:</b>	
<ol style="list-style-type: none"> <li>This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, this technique is employed in the GSM, WCDMA, CDMA and LTE modes. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing and this design will provide the highest power at different user scenarios and would not influence to the antenna characteristics other than impedance matching. The detail descriptions of the antenna tuner are included in the operational description and supplemental data for additional information on section 17</li> <li>This device WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications</li> </ol>	



**3.2 Maximum Tune-up Limit**

**General Note:**

1. For each cellular band, the device has 4 antennas, the antenna selection is based on the connection quality condition, and only one antenna will transmit at a time.
2. The device have several power modes which are determined by the exposure conditions with or without simultaneous transmission in head/hotspot/body-worn conditions, the detailed implementation of the detection of the use cases and the power table control is illustrated in the operational description exhibit.
3. When WWAN single transmitting or WWAN off and WiFi/BT is transmitting which is consider as standalone mode, When WWAN and WLAN/BT transmission at the same time which is consider as simultaneous transmission mode.

**<WWAN Maximum Power(Standalone)>**

WWAN Ant 0a				
Band	Maximum Tune Up Power (dBm)	Head Power Table (dBm)	Hotspot 10mm Power Table (dBm)	Body Worn 10mm Power Table (dBm)
GSM850 (GSM/GPRS 1TX)	34.00	34.00		34.00
GSM850 (GPRS 2TX)	32.50	32.50		32.50
GSM850 (GPRS 3TX)	31.50	31.50		31.50
GSM850 (GPRS 4TX)	30.50	30.50		30.50
GSM850 (EGPRS 1TX)	28.00	28.00		28.00
GSM850 (EGPRS 2TX)	27.50	27.50		27.50
GSM850 (EGPRS 3TX)	27.50	27.50		27.50
GSM850 (EGPRS 4TX)	25.50	25.50		25.50
WCDMA V	25.00	25.00		25.00
LTE Band 12/17	25.00	25.00		25.00
LTE Band 13	25.00	25.00		25.00
LTE Band 26/5	25.00	25.00		25.00
LTE Band 71	25.00	25.00		25.00

WWAN Ant 0b				
Band	Maximum Tune Up Power (dBm)	Head Power Table (dBm)	Hotspot 10mm Power Table (dBm)	Body Worn 10mm Power Table (dBm)
GSM1900 (GSM/GPRS 1TX)	30.00	30.00		30.00
GSM1900 (GPRS 2TX)	29.50	29.50		29.50
GSM1900 (GPRS 3TX)	29.00	29.00		29.00
GSM1900 (GPRS 4TX)	28.00	28.00		28.00
GSM1900 (EGPRS 1TX)	26.00	26.00		26.00
GSM1900 (EGPRS 2TX)	25.00	25.00		25.00
GSM1900 (EGPRS 3TX)	25.00	25.00		25.00
GSM1900 (EGPRS 4TX)	24.00	24.00		24.00
WCDMA II	24.75	24.75		24.75
WCDMA IV	24.75	24.75		24.75
LTE Band 7	24.80	24.80		19.00
LTE Band 25/2	24.75	24.75		24.75
LTE Band 41/38	24.80	24.80		21.50
LTE Band 41 PC2	26.80	26.80		23.50
LTE Band 66/4	24.75	24.75		24.75



WWAN Ant 0c				
Band	Maximum Tune Up Power (dBm)	Head Power Table (dBm)	Hotspot 10mm Power Table (dBm)	Body Worn 10mm Power Table (dBm)
WCDMA IV	24.75	24.75		24.75
LTE Band 4	24.75	24.75		24.75
LTE Band 7	24.80	24.50		24.80
LTE Band 41/38	24.80	24.80		24.80

WWAN Ant 1				
Band	Maximum Tune Up Power (dBm)	Head Power Table (dBm)	Hotspot 10mm Power Table (dBm)	Body Worn 10mm Power Table (dBm)
GSM850 (GSM/GPRS 1TX)	34.00	33.50		34.00
GSM850 (GPRS 2TX)	32.50	30.50		32.50
GSM850 (GPRS 3TX)	31.50	28.50		31.50
GSM850 (GPRS4TX)	30.50	27.50		30.50
GSM850 (EGPRS 1TX)	28.00	28.00		28.00
GSM850 (EGPRS 2TX)	27.50	27.50		27.50
GSM850 (EGPRS 3TX)	27.50	27.50		27.50
GSM850 (EGPRS 4TX)	25.50	25.50		25.50
GSM1900 (GSM/GPRS 1TX)	30.00	29.50		30.00
GSM1900 (GPRS 2TX)	29.50	26.50		29.50
GSM1900 (GPRS 3TX)	29.00	24.50		29.00
GSM1900 (GPRS4TX)	28.00	23.50		28.00
GSM1900 (EGPRS 1TX)	26.00	26.00		26.00
GSM1900 (EGPRS 2TX)	25.00	25.00		25.00
GSM1900 (EGPRS 3TX)	25.00	24.50		25.00
GSM1900 (EGPRS 4TX)	24.00	23.00		24.00
WCDMA II	24.75	20.00		24.75
WCDMA IV	24.75	21.50		24.75
WCDMA V	25.00	23.50		25.00
LTE Band 7	24.80	19.50		24.80
LTE Band 12/17	25.00	24.00		25.00
LTE Band 13	25.00	23.50		25.00
LTE Band 25/2	24.75	20.00		24.75
LTE Band 26/5	25.00	23.50		25.00
LTE Band 41/38	24.80	21.50		24.80
LTE Band 41 PC2	26.80	23.50		26.80
LTE Band 66/4	24.75	21.00		24.75
LTE Band 71	25.00	25.00		25.00



**<WWAN Maximum Power (simultaneous transmission is active)>**

<b>WWAN Ant 0a</b>				
Band	Maximum Tune Up Power (dBm)	Head Power Table (dBm)	Hotspot 10mm Power Table (dBm)	Body Worn 10mm Power Table (dBm)
GSM850 (GSM/GPRS 1TX)	34.00	34.00	34.00	34.00
GSM850 (GPRS 2TX)	32.50	32.50	32.50	32.50
GSM850 (GPRS 3TX)	31.50	31.50	31.50	31.50
GSM850 (GPRS 4TX)	30.50	30.50	30.50	30.50
GSM850 (EGPRS 1TX)	28.00	28.00	28.00	28.00
GSM850 (EGPRS 2TX)	27.50	27.50	27.50	27.50
GSM850 (EGPRS 3TX)	27.50	27.50	27.50	27.50
GSM850 (EGPRS 4TX)	25.50	25.50	25.50	25.50
WCDMA V	25.00	25.00	25.00	25.00
LTE Band 12/17	25.00	25.00	25.00	25.00
LTE Band 13	25.00	25.00	25.00	25.00
LTE Band 26/5	25.00	25.00	25.00	25.00
LTE Band 71	25.00	25.00	25.00	25.00

<b>WWAN Ant 0b</b>				
Band	Maximum Tune Up Power (dBm)	Head Power Table (dBm)	Hotspot 10mm Power Table (dBm)	Body Worn 10mm Power Table (dBm)
GSM1900 (GSM/GPRS 1TX)	30.00	30.00	30.00	30.00
GSM1900 (GPRS 2TX)	29.50	29.50	29.50	29.50
GSM1900 (GPRS 3TX)	29.00	29.00	29.00	29.00
GSM1900 (GPRS 4TX)	28.00	28.00	28.00	28.00
GSM1900 (EGPRS 1TX)	26.00	26.00	26.00	26.00
GSM1900 (EGPRS 2TX)	25.00	25.00	25.00	25.00
GSM1900 (EGPRS 3TX)	25.00	25.00	25.00	25.00
GSM1900 (EGPRS 4TX)	24.00	24.00	24.00	24.00
WCDMA II	24.75	24.75	24.75	24.75
WCDMA IV	24.75	24.75	24.75	24.75
LTE Band 7	24.80	24.80	17.50	17.50
LTE Band 25/2	24.75	24.75	24.75	23.00
LTE Band 41/38	24.80	24.80	20.00	20.00
LTE Band 41 PC2	26.80	26.80	22.00	22.00
LTE Band 66/4	24.75	24.75	24.75	24.75





WWAN Ant 0c				
Band	Maximum Tune Up Power (dBm)	Head Power Table (dBm)	Hotspot 10mm Power Table (dBm)	Body Worn 10mm Power Table (dBm)
WCDMA IV	24.75	24.75	24.75	23.00
LTE Band 4	24.75	24.75	24.75	24.75
LTE Band 7	24.80	23.50	23.50	22.00
LTE Band 41/38	24.80	24.80	24.80	24.80

WWAN Ant 1				
Band	Maximum Tune Up Power (dBm)	Head Power Table (dBm)	Hotspot 10mm Power Table (dBm)	Body Worn 10mm Power Table (dBm)
GSM850 (GSM/GPRS 1TX)	34.00	32.50	34.00	34.00
GSM850 (GPRS 2TX)	32.50	29.50	32.50	32.50
GSM850 (GPRS 3TX)	31.50	27.50	31.50	31.50
GSM850 (GPRS4TX)	30.50	26.50	30.50	30.50
GSM850 (EGPRS 1TX)	28.00	28.00	28.00	28.00
GSM850 (EGPRS 2TX)	27.50	27.50	27.50	27.50
GSM850 (EGPRS 3TX)	27.50	27.50	27.50	27.50
GSM850 (EGPRS 4TX)	25.50	25.50	25.50	25.50
GSM1900 (GSM/GPRS 1TX)	30.00	28.50	30.00	30.00
GSM1900 (GPRS 2TX)	29.50	25.50	29.50	29.50
GSM1900 (GPRS 3TX)	29.00	23.50	29.00	29.00
GSM1900 (GPRS4TX)	28.00	22.50	28.00	28.00
GSM1900 (EGPRS 1TX)	26.00	26.00	26.00	26.00
GSM1900 (EGPRS 2TX)	25.00	25.00	25.00	25.00
GSM1900 (EGPRS 3TX)	25.00	23.50	25.00	25.00
GSM1900 (EGPRS 4TX)	24.00	22.00	24.00	24.00
WCDMA II	24.75	19.00	24.75	23.50
WCDMA IV	24.75	21.00	24.75	24.75
WCDMA V	25.00	22.50	25.00	25.00
LTE Band 7	24.80	19.00	24.80	24.80
LTE Band 12/17	25.00	23.50	25.00	25.00
LTE Band 13	25.00	23.50	25.00	25.00
LTE Band 25/2	24.75	19.50	24.75	23.50
LTE Band 26/5	25.00	23.00	25.00	25.00
LTE Band 41/38	24.80	21.00	24.80	24.80
LTE Band 41 PC2	26.80	23.00	26.80	26.80
LTE Band 66/4	24.75	20.50	24.75	24.75
LTE Band 71	25.00	25.00	25.00	25.00



<WLAN SISO Maximum Power>

Frequency Band	Modulation	Maximum Tune Up Power Table (dBm)		Standalone& Simultaneous		Simultaneous		Standalone		Simultaneous	
				Head Power Table (dBm)		Hotspot 10mm Power Table (dBm)		Body Worn 10mm Power Table (dBm)		Body Worn 10mm Power Table (dBm)	
		Ant 2	Ant 3	Ant 2	Ant 3	Ant 2	Ant 3	Ant 2	Ant 3	Ant 2	Ant 3
WLAN2.4GHz	802.11b	23	23	14	14.5	17	18.5	23	23	17	18.5
	802.11g	22.5	22.5	14	14.5	17	18.5	22.5	22.5	17	18.5
	802.11n HT20	22.5	22.5	14	14.5	17	18.5	22.5	22.5	17	18.5
	802.11ac VHT20	22.5	22.5	14	14.5	17	18.5	22.5	22.5	17	18.5

Frequency Band	Modulation	Maximum Tune Up Power Table (dBm)		Standalone& Simultaneous		Simultaneous		Standalone		Simultaneous	
				Head Power Table (dBm)		Hotspot 10mm Power Table (dBm)		Body Worn 10mm Power Table (dBm)		Body Worn 10mm Power Table (dBm)	
		Ant 2	Ant 5	Ant 2	Ant 5	Ant 2	Ant 5	Ant 2	Ant 5	Ant 2	Ant 5
WLAN5GHz UNII1	802.11a	19	19	13.5	14.5	15.5	18	19	19	15.5	18
	802.11n HT20	19	19	13.5	14.5	15.5	18	19	19	15.5	18
	802.11n HT40	21	21	13.5	14.5	15.5	18	21	21	15.5	18
	802.11n VHT20	19	19	13.5	14.5	15.5	18	19	19	15.5	18
	802.11n VHT40	21	21	13.5	14.5	15.5	18	21	21	15.5	18
	802.11n VHT80	15	15	13.5	14.5	15	15	15	15	15	15
WLAN5GHz UNII 2A	802.11a	19	19	13.5	14.5			19	19	17.5	18.5
	802.11n HT20	19	19	13.5	14.5			19	19	17.5	18.5
	802.11n HT40	21	21	13.5	14.5			21	21	17.5	18.5
	802.11n VHT20	19	19	13.5	14.5			19	19	17.5	18.5
	802.11n VHT40	21	21	13.5	14.5			21	21	17.5	18.5
	802.11n VHT80	16.5	16.5	13.5	14.5			16.5	16.5	16.5	16.5
WLAN5GHz UNII 2C	802.11a	19	19	14.5	15.5			19	19	19	17.5
	802.11n HT20	19.5	19.5	14.5	15.5			19.5	19.5	19.5	17.5
	802.11n HT40	21	21	14.5	15.5			21	21	19.5	17.5
	802.11n VHT20	19.5	19.5	14.5	15.5			19.5	19.5	19.5	17.5
	802.11n VHT40	21	21	14.5	15.5			21	21	19.5	17.5
	802.11n VHT80	21	21	14.5	15.5			21	21	19.5	17.5
WLAN5GHz UNII 3	802.11a	20	20	14	16	16	18	20	20	16	18
	802.11n HT20	20	20	14	16	16	18	20	20	16	18
	802.11n HT40	20	20	14	16	16	18	20	20	16	18
	802.11n VHT20	20	20	14	16	16	18	20	20	16	18
	802.11n VHT40	20	20	14	16	16	18	20	20	16	18
	802.11n VHT80	20	20	14	16	16	18	20	20	16	18



<WLAN MIMO Power>

Frequency Band	Modulation	Maximum Tune Up Power Table (dBm)			Standalone& Simultaneous			Simultaneous			Standalone			Simultaneous		
					Head Power Table (dBm)			Hotspot 10mm Power Table (dBm)			Body Worn 10mm Power Table (dBm)			Body Worn 10mm Power Table (dBm)		
		Ant 2	Ant 3	Ant 2+3	Ant 2	Ant 3	Ant 2+3	Ant 2	Ant 3	Ant 2+3	Ant 2	Ant 3	Ant 2+3	Ant 2	Ant 3	Ant 2+3
WLAN 2.4GHz	802.11b	23	23	26	16	15	18.5	20.5	19.5	23	23	23	26	20.5	19.5	23
	802.11g	22.5	22.5	25.5	16	15	18.5	20.5	19.5	23	22.5	22.5	25.5	20.5	19.5	23
	802.11n HT20	22.5	22.5	25.5	16	15	18.5	20.5	19.5	23	22.5	22.5	25.5	20.5	19.5	23
	802.11ac VHT20	22.5	22.5	25.5	16	15	18.5	20.5	19.5	23	22.5	22.5	25.5	20.5	19.5	23

Frequency Band	Modulation	Maximum Tune Up Power Table (dBm)			Standalone& Simultaneous			Simultaneous			Standalone			Simultaneous		
					Head Power Table (dBm)			Hotspot 10mm Power Table (dBm)			Body Worn 10mm Power Table (dBm)			Body Worn 10mm Power Table (dBm)		
		Ant 2	Ant 5	Ant 2+5	Ant 2	Ant 5	Ant 2+5	Ant 2	Ant 5	Ant 2+5	Ant 2	Ant 5	Ant 2+5	Ant 2	Ant 5	Ant 2+5
WLAN5GHz UNII1	802.11a	19	19	22	12	14.5	16.4	15	18	19.8	19	19	22	15	18	19.8
	802.11n HT20	19	19	22	12	14.5	16.4	15	18	19.8	19	19	22	15	18	19.8
	802.11n HT40	21	21	24	12	14.5	16.4	15	18	19.8	21	21	24	15	18	19.8
	802.11n VHT20	19	19	22	12	14.5	16.4	15	18	19.8	19	19	22	15	18	19.8
	802.11n VHT40	21	21	24	12	14.5	16.4	15	18	19.8	21	21	24	15	18	19.8
	802.11n VHT80	15	15	18	12	14.5	16.4	15	15	18	15	15	18	15	15	18
WLAN5GHz UNII 2A	802.11a	19	19	22	12	14.5	16.4				19	19	22	17	18	20.5
	802.11n HT20	19	19	22	12	14.5	16.4				19	19	22	17	18	20.5
	802.11n HT40	21	21	24	12	14.5	16.4				21	21	24	17	18	20.5
	802.11n VHT20	19	19	22	12	14.5	16.4				19	19	22	17	18	20.5
	802.11n VHT40	21	21	24	12	14.5	16.4				21	21	24	17	18	20.5
	802.11n VHT80	16.5	16.5	19.5	12	14.5	16.4				16.5	16.5	19.5	16.5	16.5	19.5
WLAN5GHz UNII 2C	802.11a	19	19	22	11.5	14.5	16.3				19	19	22	16	16	19
	802.11n HT20	19.5	19.5	22.5	11.5	14.5	16.3				19.5	19.5	22.5	16	16	19
	802.11n HT40	21	21	24	11.5	14.5	16.3				21	21	24	16	16	19
	802.11n VHT20	19.5	19.5	22.5	11.5	14.5	16.3				19.5	19.5	22.5	16	16	19
	802.11n VHT40	21	21	24	11.5	14.5	16.3				21	21	24	16	16	19
	802.11n VHT80	21	21	24	11.5	14.5	16.3				21	21	24	16	16	19
WLAN5GHz UNII 3	802.11a	20	20	23	11.5	15.5	17	14.5	18	19.6	20	20	23	14.5	18	19.6
	802.11n HT20	20	20	23	11.5	15.5	17	14.5	18	19.6	20	20	23	14.5	18	19.6
	802.11n HT40	20	20	23	11.5	15.5	17	14.5	18	19.6	20	20	23	14.5	18	19.6
	802.11n VHT20	20	20	23	11.5	15.5	17	14.5	18	19.6	20	20	23	14.5	18	19.6
	802.11n VHT40	20	20	23	11.5	15.5	17	14.5	18	19.6	20	20	23	14.5	18	19.6
	802.11n VHT80	20	20	23	11.5	15.5	17	14.5	18	19.6	20	20	23	14.5	18	19.6

<Bluetooth Maximum Power>

Frequency Band	Modulation	Maximum Tune Up Power Table (dBm)	Simultaneous	Simultaneous	Standalone	Simultaneous	
			Head Power Table (dBm)	Hotspot 10mm Power Table (dBm)	Body Worn 10mm Power Table (dBm)	Body Worn 10mm Power Table (dBm)	
			Ant 2	Ant 2	Ant 2	Ant 2	
Bluetooth	BR/EDR	1Mbps	19.5	12.5	19	19.5	19
		2Mbps	19.5	12.5	19	19.5	19
		3Mbps	19.5	12.5	19	19.5	19
	LE	1Mbps	13.5	12.5	13.5	13.5	13.5
		2Mbps	13.5	12.5	13.5	13.5	13.5



**3.3 General LTE SAR Test and Reporting Considerations**

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																															
FCC ID	A4RG020MN																																																														
Equipment Name	PHONE																																																														
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz																																																														
Channel Bandwidth	LTE Band 02: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 04: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 05: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 07: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																														
uplink modulations used	QPSK / 16QAM / 64QAM																																																														
LTE Voice / Data requirements	Voice and Data																																																														
LTE MPR permanently built-in by design	<p align="center"><b>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (N<sub>RB</sub>)</th> <th rowspan="2">MPR (dB)</th> </tr> <tr> <th>1.4 MHz</th> <th>3.0 MHz</th> <th>5 MHz</th> <th>10 MHz</th> <th>15 MHz</th> <th>20 MHz</th> </tr> </thead> <tbody> <tr> <td>QPSK</td> <td>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 18</td> <td>≤ 3</td> </tr> <tr> <td>256 QAM</td> <td colspan="6">≥ 1</td> <td>≤ 5</td> </tr> </tbody> </table>	Modulation	Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> )						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
Modulation	Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> )						MPR (dB)																																																								
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz																																																									
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1																																																								
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																																								
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256 QAM	≥ 1						≤ 5																																																								
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																														
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																														
Power reduction applied to satisfy SAR compliance	The device has several different power modes for head / hotspot conditions SAR compliance; power selection is determined by the device's positioning and usage scenarios.																																																														
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 13																																																														
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for LTE B7/B41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 2 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.																																																														



Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829	20450	829	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 10 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23230		782	
M	23230		782		23230		782		23230		782	
H	23255		784.5		23230		782		23230		782	
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 10 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)		Channel #		Freq. (MHz)	
L	23755		706.5		23780		709		23780		709	
M	23790		710		23790		710		23790		710	
H	23825		713.5		23800		711		23800		711	
LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5



H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5		
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
L	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
H	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770
LTE Band 71												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	133147	665.5	133172	668	133197	670.5	133222	673				
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5				
H	133447	695.5	133422	693	133397	690.5	133372	688				



**4. RF Exposure Limits**

**4.1 Uncontrolled Environment**

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

**4.2 Controlled Environment**

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

**Limits for Occupational/Controlled Exposure (W/kg)**

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

**Limits for General Population/Uncontrolled Exposure (W/kg)**

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

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram 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.



## **5. Specific Absorption Rate (SAR)**

### **5.1 Introduction**

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.

### **5.2 SAR Definition**

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 ( $\rho$ ). 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)

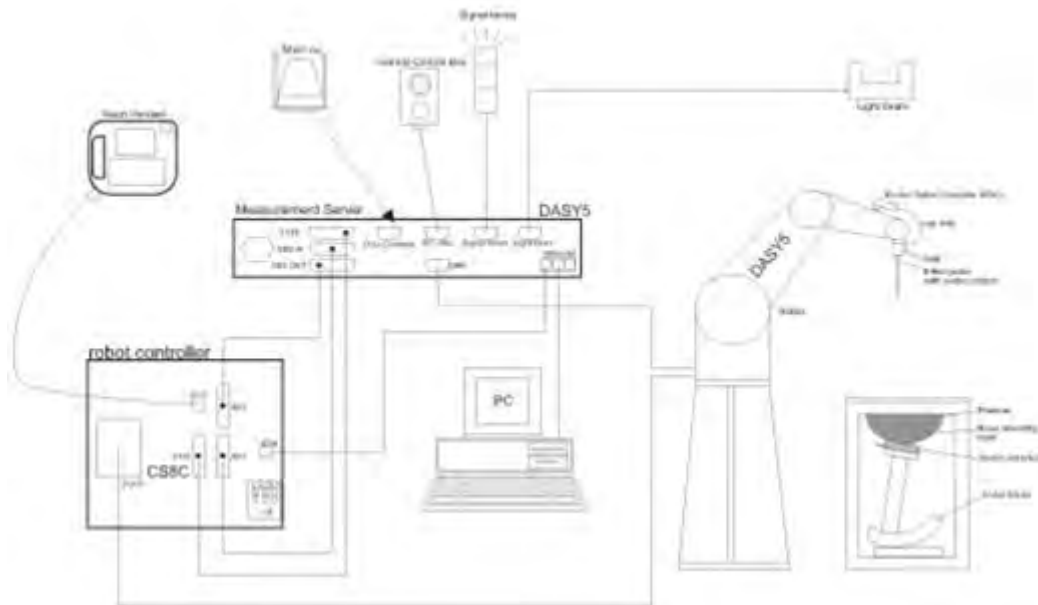
$$SAR = \frac{\sigma |E|^2}{\rho}$$

Where:  $\sigma$  is the conductivity of the tissue,  $\rho$  is the mass density of the tissue and E is the RMS electrical field strength.



## **6. System Description and Setup**

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




- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.


**6.1 E-Field Probe**

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG).The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

**<ES3DV3 Probe>**

<b>Construction</b>	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
<b>Frequency</b>	10 MHz – 4 GHz; Linearity: $\pm 0.2$ dB (30 MHz – 4 GHz)	
<b>Directivity</b>	$\pm 0.2$ dB in TSL (rotation around probe axis) $\pm 0.3$ dB in TSL (rotation normal to probe axis)	
<b>Dynamic Range</b>	5 $\mu$ W/g – >100 mW/g; Linearity: $\pm 0.2$ dB	
<b>Dimensions</b>	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

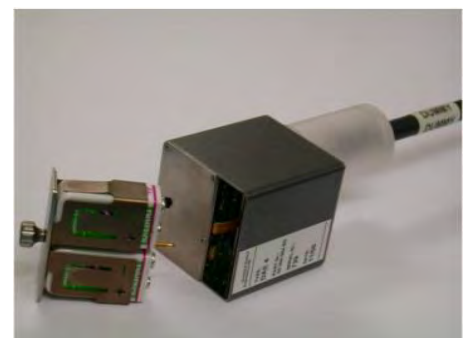
**<EX3DV4 Probe>**

<b>Construction</b>	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
<b>Frequency</b>	10 MHz – >6 GHz Linearity: $\pm 0.2$ dB (30 MHz – 6 GHz)	
<b>Directivity</b>	$\pm 0.3$ dB in TSL (rotation around probe axis) $\pm 0.5$ dB in TSL (rotation normal to probe axis)	
<b>Dynamic Range</b>	10 $\mu$ W/g – >100 mW/g Linearity: $\pm 0.2$ dB (noise: typically <1 $\mu$ W/g)	
<b>Dimensions</b>	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

**6.2 Data Acquisition Electronics (DAE)**

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.


The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.



**Fig 5.1 Photo of DAE**

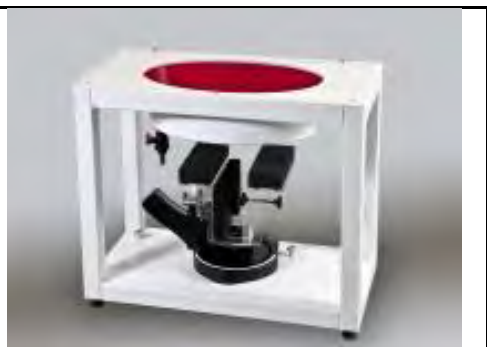
**6.3 Phantom**

**<SAM Twin Phantom>**

<b>Shell Thickness</b>	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	
<b>Filling Volume</b>	Approx. 25 liters	
<b>Dimensions</b>	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
<b>Measurement Areas</b>	Left Hand, Right Hand, Flat Phantom	

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

**<ELI Phantom>**

<b>Shell Thickness</b>	2 ± 0.2 mm (sagging: <1%)	
<b>Filling Volume</b>	Approx. 30 liters	
<b>Dimensions</b>	Major ellipse axis: 600 mm Minor axis: 400 mm	

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

**6.4 Device Holder**

**<Mounting Device for Hand-Held Transmitter>**

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

**<Mounting Device for Laptops and other Body-Worn Transmitters>**

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.



Mounting Device for Laptops



## **7. Measurement Procedures**

The measurement procedures are as follows:

### <Conducted power measurement>

- (a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
- (b) Read the WWAN RF power level from the base station simulator.
- (c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
- (d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

### <SAR measurement>

- (a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
- (b) Place the EUT in the positions as Appendix D demonstrates.
- (c) Set scan area, grid size and other setting on the DASY software.
- (d) Measure SAR results for the highest power channel on each testing position.
- (e) Find out the largest SAR result on these testing positions of each band
- (f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

### **7.1 Spatial Peak SAR Evaluation**

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

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

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g



**7.2 Power Reference Measurement**

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

**7.3 Area Scan**

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: $\Delta x_{Area}$ , $\Delta y_{Area}$	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

**7.4 Zoom Scan**

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

		≤ 3 GHz	> 3 GHz	
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}, \Delta y_{Zoom}$		$\leq 2$ GHz: $\leq 8$ mm 2 – 3 GHz: $\leq 5$ mm*	3 – 4 GHz: $\leq 5$ mm* 4 – 6 GHz: $\leq 4$ mm*	
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	$\leq 5$ mm	3 – 4 GHz: $\leq 4$ mm 4 – 5 GHz: $\leq 3$ mm 5 – 6 GHz: $\leq 2$ mm	
	graded grid	$\Delta z_{Zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	$\leq 4$ mm	3 – 4 GHz: $\leq 3$ mm 4 – 5 GHz: $\leq 2.5$ mm 5 – 6 GHz: $\leq 2$ mm
		$\Delta z_{Zoom}(n>1)$ : between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	$\geq 30$ mm	3 – 4 GHz: $\geq 28$ mm 4 – 5 GHz: $\geq 25$ mm 5 – 6 GHz: $\geq 22$ mm	
Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

**7.5 Volume Scan Procedures**

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

**7.6 Power Drift Monitoring**

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASYS measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.



**8. Test Equipment List**

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1012	Sep. 05, 2018	Sep. 04, 2019
SPEAG	835MHz System Validation Kit	D835V2	4d167	Mar. 08, 2019	Mar. 07, 2020
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 19, 2018	Nov. 18, 2019
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Sep. 11, 2018	Sep. 10, 2019
SPEAG	2450MHz System Validation Kit	D2450V2	736	Aug. 31, 2018	Aug. 30, 2019
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 31, 2018	Aug. 30, 2019
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Sep. 27, 2018	Sep. 26, 2019
SPEAG	Data Acquisition Electronics	DAE3	577	Sep. 19, 2018	Sep. 18, 2019
SPEAG	Data Acquisition Electronics	DAE4	316	Jan. 03, 2019	Jan. 02, 2020
SPEAG	Data Acquisition Electronics	DAE3	360	Oct. 29, 2018	Oct. 28, 2019
SPEAG	Data Acquisition Electronics	DAE4	918	Jun. 20, 2018	Jun. 19, 2019
SPEAG	Data Acquisition Electronics	DAE4	1399	Nov. 16, 2018	Nov. 15, 2019
SPEAG	Dosimetric E-Field Probe	ES3DV3	3124	Jan. 15, 2019	Jan. 14, 2020
SPEAG	Dosimetric E-Field Probe	ES3DV3	3169	May. 28, 2018	May. 27, 2019
SPEAG	Dosimetric E-Field Probe	ES3DV3	3270	Sep. 24, 2018	Sep. 23, 2019
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Sep. 27, 2018	Sep. 26, 2019
SPEAG	Dosimetric E-Field Probe	EX3DV4	7515	Oct. 03, 2018	Oct. 02, 2019
TESTO	Hygro meter	608-H1	34913631	Aug. 27, 2018	Aug. 26, 2019
TESTO	Hygro meter	608-H1	34852481	Sep. 27, 2018	Sep. 26, 2019
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 12, 2018	Nov. 11, 2019
RCPTWN	Thermometer	HTC-1	TM560-2	Nov. 12, 2018	Nov. 11, 2019
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Apr. 21, 2019	Apr. 20, 2020
Anritsu	Radio Communication Analyzer	MT8820C	6201381766	Jun. 21, 2018	Jun. 20, 2019
Agilent	Wireless Communication Test Set	E5515C	MY50266977	May. 27, 2019	May. 26, 2020
Agilent	Wireless Communication Test Set	E5515C	MY50267236	Apr. 01, 2019	Mar. 31, 2020
R&S	BT Base Station	CBT32	100522	Mar. 18, 2019	Mar. 17, 2020
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Dec. 11, 2018	Dec. 10, 2019
Agilent	ENA Network Analyzer	E5071C	MY46104758	Sep. 19, 2018	Sep. 18, 2019
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 19, 2018	Sep. 18, 2019
LINE SEIKI	Digital Thermometer	DTM3000-spezial	2942	Dec. 07, 2018	Dec. 06, 2019
Anritsu	Power Meter	ML2495A	1240001	Sep. 13, 2018	Sep. 12, 2019
Anritsu	Power Sensor	MA2411B	1207349	Sep. 13, 2018	Sep. 12, 2019
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 28, 2018	Aug. 27, 2019
Mini-Circuits	Power Amplifier	ZVE-8G+	6382	Aug. 09, 2018	Aug. 08, 2019
Mini-Circuits	Power Amplifier	ZHL-42W+	15542	Aug. 09, 2018	Aug. 08, 2019
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005-3	N/A	Note 1	

**General Note:**

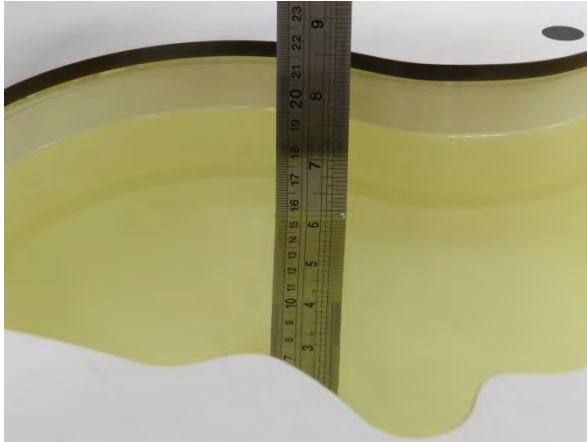
1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.



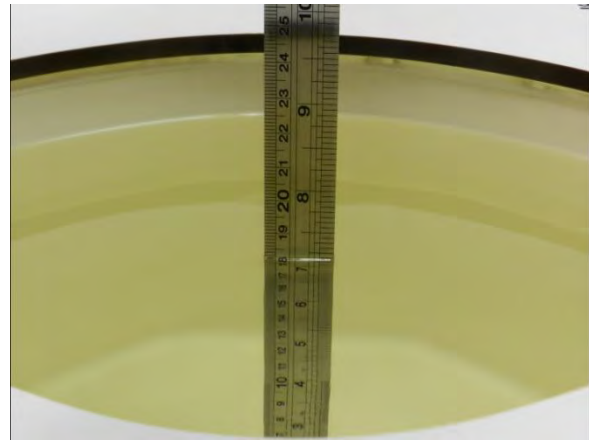
## **9. System Verification**

### **9.1 Tissue Simulating Liquids**

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body 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 15 cm, which is shown in Fig. 10.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.2.



**Fig 10.1** Photo of Liquid Height for Head SAR



**Fig 10.2** Photo of Liquid Height for Body SAR



**9.2 Tissue Verification**

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity ( $\sigma$ )	Permittivity ( $\epsilon_r$ )
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

**Simulating Liquid for 5GHz, Manufactured by SPEAG**

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%



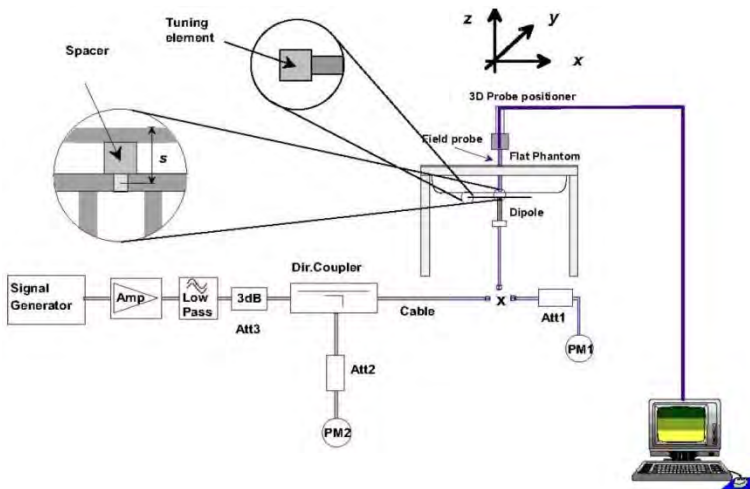
**<Tissue Dielectric Parameter Check Results>**

Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε <sub>r</sub> )	Conductivity Target (σ)	Permittivity Target (ε <sub>r</sub> )	Delta (σ) (%)	Delta (ε <sub>r</sub> ) (%)	Limit (%)	Date
750	22.5	0.895	40.673	0.89	41.90	0.56	-2.93	±5	2019/5/1
750	22.5	0.922	40.936	0.89	41.90	3.60	-2.30	±5	2019/5/1
750	22.4	0.887	42.923	0.89	41.90	-0.34	2.44	±5	2019/6/7
750	22.4	0.923	40.946	0.89	41.90	3.71	-2.28	±5	2019/6/7
750	22.6	0.890	40.552	0.89	41.90	0.00	-3.22	±5	2019/6/17
835	22.2	0.877	41.071	0.90	41.50	-2.56	-1.03	±5	2019/4/30
835	22.3	0.904	42.974	0.90	41.50	0.44	3.55	±5	2019/5/2
835	22.4	0.912	42.604	0.90	41.50	1.33	2.66	±5	2019/6/7
835	22.6	0.871	41.224	0.90	41.50	-3.22	-0.67	±5	2019/6/17
1750	22.6	1.373	41.773	1.37	40.10	0.22	4.17	±5	2019/5/2
1750	22.1	1.363	39.614	1.37	40.10	-0.51	-1.21	±5	2019/5/5
1750	22.6	1.356	39.222	1.37	40.10	-1.02	-2.19	±5	2019/6/6
1750	22.8	1.350	39.996	1.37	40.10	-1.46	-0.26	±5	2019/6/18
1750	22.1	1.340	39.547	1.37	40.10	-2.19	-1.38	±5	2019/6/21
1900	22.6	1.435	41.003	1.40	40.00	2.50	2.51	±5	2019/5/2
1900	22.6	1.458	39.008	1.40	40.00	4.14	-2.48	±5	2019/6/6
1900	22.8	1.421	41.149	1.40	40.00	1.50	2.87	±5	2019/6/18
1900	22.1	1.449	38.957	1.40	40.00	3.50	-2.61	±5	2019/6/21
2450	22.8	1.786	39.918	1.80	39.20	-0.78	1.83	±5	2019/7/1
2600	22.1	1.941	38.112	1.96	39.00	-0.97	-2.28	±5	2019/5/6
2600	22.5	1.970	37.965	1.96	39.00	0.51	-2.65	±5	2019/6/5
2600	22.5	1.970	37.965	1.96	39.00	0.51	-2.65	±5	2019/6/5
2600	22.5	1.977	37.741	1.96	39.00	0.87	-3.23	±5	2019/6/19
2600	22.5	1.960	38.958	1.96	39.00	0.00	-0.11	±5	2019/6/19
2600	22.3	1.975	38.076	1.96	39.00	0.77	-2.37	±5	2019/6/20
5250	22.6	4.606	35.939	4.71	35.95	-2.21	-0.03	±5	2019/6/27
5250	22.5	4.587	36.797	4.71	35.95	-2.61	2.36	±5	2019/6/28
5600	22.6	4.939	35.478	5.07	35.50	-2.58	-0.06	±5	2019/6/27
5600	22.5	4.931	36.284	5.07	35.50	-2.74	2.21	±5	2019/6/28
5750	22.6	5.1	35.247	5.22	35.35	-2.30	-0.29	±5	2019/6/27
5750	22.5	5.084	36.07	5.22	35.35	-2.61	2.04	±5	2019/6/28

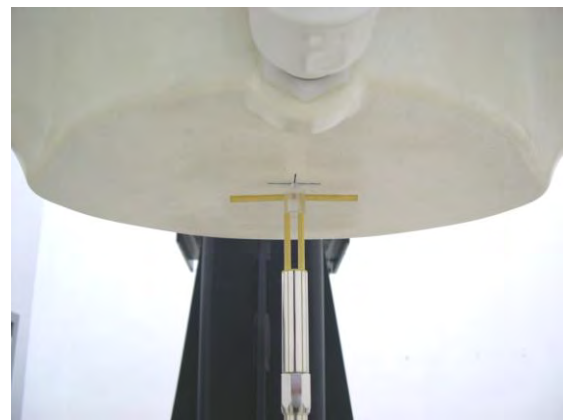
**9.3 System Performance Check Results**

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2019/5/1	750	250	D750V3-1012	EX3DV4 - SN3931	DAE4 Sn1399	2.16	8.47	8.64	2.01
2019/5/1	750	250	D750V3-1012	EX3DV4 - SN3931	DAE4 Sn1399	2.27	8.47	9.08	7.20
2019/6/7	750	250	D750V3-1012	ES3DV3 - SN3124	DAE4 Sn316	2.26	8.47	9.04	6.73
2019/6/7	750	250	D750V3-1012	ES3DV3 - SN3124	DAE4 Sn316	2.25	8.47	9.00	6.26
2019/6/17	750	250	D750V3-1012	ES3DV3 - SN3124	DAE4 Sn316	2.05	8.47	8.20	-3.19
2019/4/30	835	250	D835V2-4d167	EX3DV4 - SN3931	DAE4 Sn1399	2.28	9.50	9.12	-4.00
2019/5/2	835	250	D835V2-4d167	ES3DV3 - SN3169	DAE4 Sn918	2.33	9.50	9.32	-1.89
2019/6/7	835	250	D835V2-4d167	ES3DV3 - SN3124	DAE4 Sn316	2.56	9.50	10.24	7.79
2019/6/17	835	250	D835V2-4d167	ES3DV3 - SN3124	DAE4 Sn316	2.43	9.50	9.72	2.32
2019/5/2	1750	250	D1750V2-1068	ES3DV3 - SN3169	DAE4 Sn918	9.13	37.10	36.52	-1.56
2019/5/5	1750	250	D1750V2-1068	ES3DV3 - SN3169	DAE3 Sn577	8.71	37.10	34.84	-6.09
2019/6/6	1750	250	D1750V2-1068	ES3DV3 - SN3124	DAE4 Sn316	8.37	37.10	33.48	-9.76
2019/6/18	1750	250	D1750V2-1068	ES3DV3 - SN3124	DAE4 Sn316	9.43	37.10	37.72	1.67
2019/6/21	1750	250	D1750V2-1068	ES3DV3 - SN3270	DAE3 Sn577	8.83	37.10	35.32	-4.80
2019/5/2	1900	250	D1900V2-5d041	ES3DV3 - SN3169	DAE4 Sn918	10.50	40.20	42.00	4.48
2019/6/6	1900	250	D1900V2-5d041	ES3DV3 - SN3124	DAE4 Sn316	10.80	40.20	43.20	7.46
2019/6/18	1900	250	D1900V2-5d041	ES3DV3 - SN3270	DAE3 Sn577	10.00	40.20	40.00	-0.50
2019/6/21	1900	250	D1900V2-5d041	ES3DV3 - SN3270	DAE3 Sn577	10.50	40.20	42.00	4.48
2019/7/1	2450	250	D2450V2-736	EX3DV4 - SN7515	DAE3 Sn360	13.70	52.70	54.80	3.98
2019/5/6	2600	250	D2600V2-1008	ES3DV3 - SN3169	DAE3 Sn577	14.20	56.40	56.80	0.71
2019/6/5	2600	250	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn1399	14.50	56.40	58.00	2.84
2019/6/5	2600	250	D2600V2-1008	ES3DV3 - SN3124	DAE4 Sn316	13.50	56.40	54.00	-4.26
2019/6/19	2600	250	D2600V2-1008	ES3DV3 - SN3270	DAE3 Sn577	14.70	56.40	58.80	4.26
2019/6/19	2600	250	D2600V2-1008	ES3DV3 - SN3270	DAE3 Sn577	14.60	56.40	58.40	3.55
2019/6/20	2600	250	D2600V2-1008	ES3DV3 - SN3270	DAE3 Sn577	13.90	56.40	55.60	-1.42
2019/6/27	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN7515	DAE3 Sn360	8.01	80.70	80.10	-0.74
2019/6/28	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN7515	DAE3 Sn360	8.22	80.70	82.20	1.86
2019/6/27	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN7515	DAE3 Sn360	8.48	83.30	84.80	1.80
2019/6/28	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN7515	DAE3 Sn360	8.47	83.30	84.70	1.68
2019/6/27	5750	100	D5GHzV2-1006-5750	EX3DV4 - SN7515	DAE3 Sn360	8.00	80.40	80.00	-0.50
2019/6/28	5750	100	D5GHzV2-1006-5750	EX3DV4 - SN7515	DAE3 Sn360	7.97	80.40	79.70	-0.87



**Fig 8.3.1 System Performance Check Setup**



**Fig 8.3.2 Setup Photo**

## 10. RF Exposure Positions

### 10.1 Ear and handset reference point

Figure 9.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 9.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 9.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 9.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

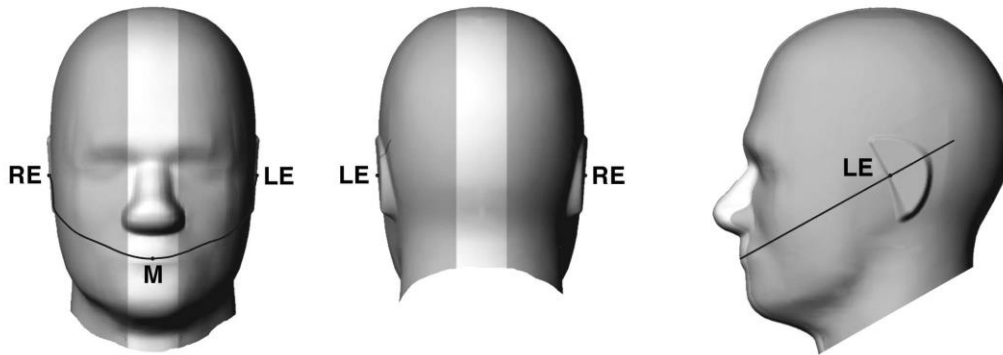


Fig 9.1.1 Front, back, and side views of SAM twin phantom

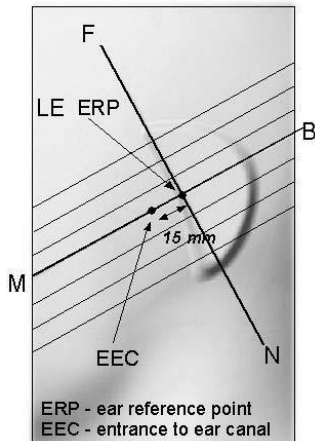


Fig 9.1.2 Close-up side view of phantom showing the ear region.

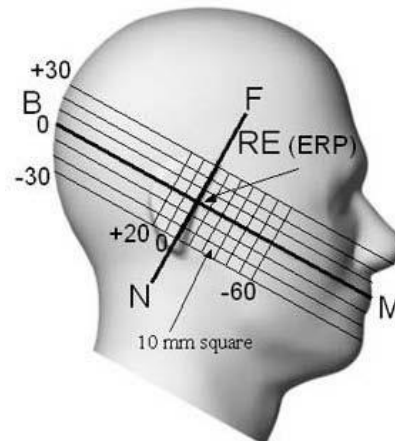
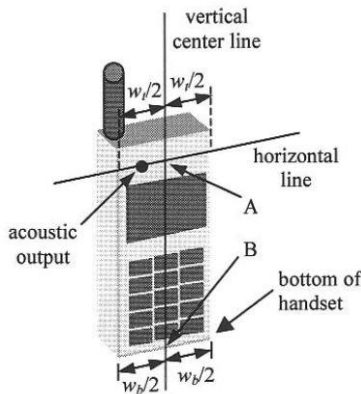


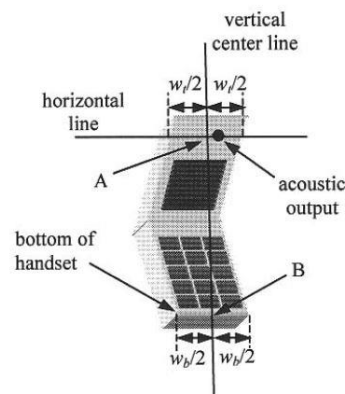
Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

**10.2 Definition of the cheek position**

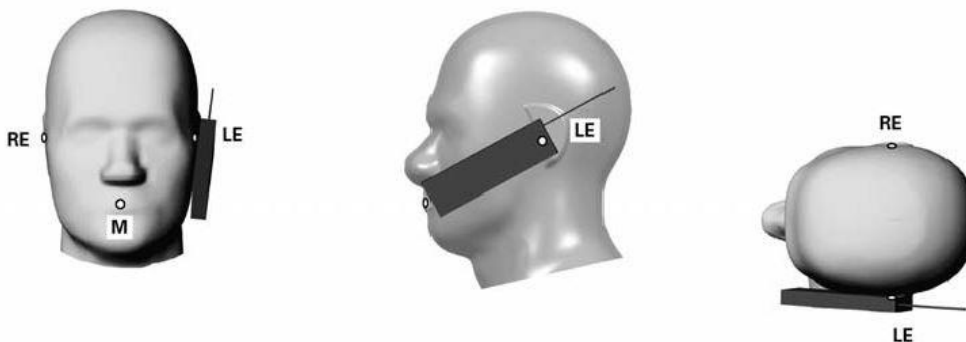
1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width  $w_t$  of the handset at the level of the acoustic output (point A in Figure 9.2.1 and Figure 9.2.2), and the midpoint of the width  $w_b$  of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 9.2.1). 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 parallel to the front face of the handset (see Figure 9.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 9.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 9.2.3. The actual rotation angles should be documented in the test report.



**Fig 9.2.1 Handset vertical and horizontal reference lines—“fixed case”**



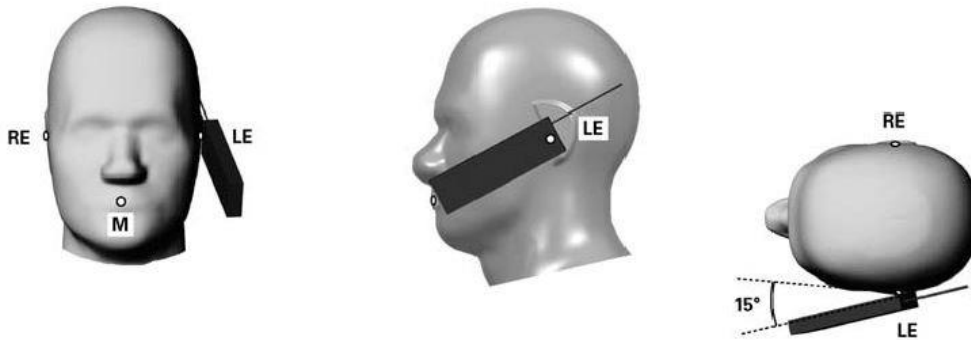
**Fig 9.2.2 Handset vertical and horizontal reference lines—“clam-shell case”**



**Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.**

**10.3 Definition of the tilt position**

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 9.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

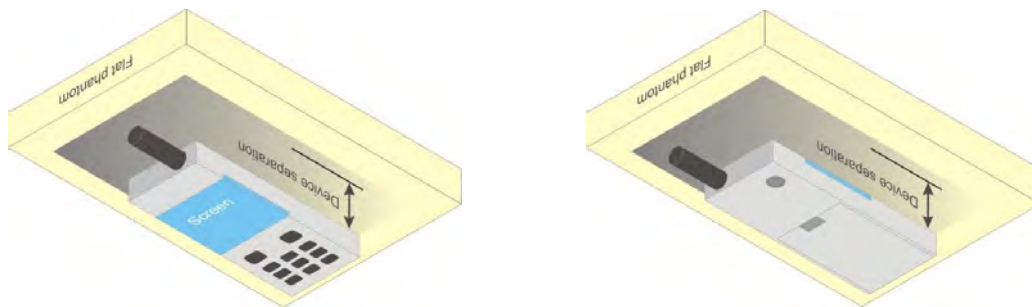


**Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.**

**10.4 Body Worn Accessory**

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 9.4). Per KDB648474 D04v01r03, 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 FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for 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 that body-worn accessory with a headset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.



**Fig 9.4 Body Worn Position**

**10.5 Wireless Router**

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The “Portable Hotspot” feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.





### 11. Standalone Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode, SAR measurement is not required for the secondary mode

Power Selection	Transmit Antenna	GSM850			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel			128	189	251		128	189	251	
		Frequency (MHz)			824.2	836.4	848.8		824.2	836.4	848.8	
Head / Near body	Ant 0a	GSM 1 Tx slot			33.59	33.51	33.52	34.00	24.59	24.51	24.52	25.00
		GPRS 1 Tx slot			33.60	33.58	33.54	34.00	24.60	24.58	24.54	25.00
		GPRS 2 Tx slots			31.95	32.03	31.87	32.50	25.95	26.03	25.87	26.50
		GPRS 3 Tx slots			30.70	30.74	30.96	31.50	26.44	26.48	26.70	27.24
		GPRS 4 Tx slots			30.16	29.85	30.10	30.50	27.16	26.85	27.10	27.50
		EDGE 1 Tx slot			26.84	26.85	26.79	28.00	17.84	17.85	17.79	19.00
		EDGE 2 Tx slots			26.88	26.93	26.77	27.50	20.88	20.93	20.77	21.50
		EDGE 3 Tx slots			26.79	26.76	26.59	27.50	22.53	22.50	22.33	23.24
		EDGE 4 Tx slots			25.35	25.27	25.08	25.50	22.35	22.27	22.08	22.50

Power Selection	Transmit Antenna	GSM850			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel			128	189	251		128	189	251	
		Frequency (MHz)			824.2	836.4	848.8		824.2	836.4	848.8	
Head	Ant 1	GSM 1 Tx slot			32.18	32.01	32.08	33.50	23.18	23.01	23.08	24.50
		GPRS 1 Tx slot			32.17	32.17	32.09	33.50	23.17	23.17	23.09	24.50
		GPRS 2 Tx slots			28.93	29.01	28.86	30.50	22.93	23.01	22.86	24.50
		GPRS 3 Tx slots			27.15	27.21	27.45	28.50	22.89	22.95	23.19	24.24
		GPRS 4 Tx slots			26.03	26.23	26.11	27.50	23.03	23.23	23.11	24.50
		EDGE 1 Tx slot			26.84	26.85	26.79	28.00	17.84	17.85	17.79	19.00
		EDGE 2 Tx slots			26.88	26.93	26.77	27.50	20.88	20.93	20.77	21.50
		EDGE 3 Tx slots			26.79	26.76	26.59	27.50	22.53	22.50	22.33	23.24
EDGE 4 Tx slots			25.35	25.27	25.08	25.50	22.35	22.27	22.08	22.50		

Power Selection	Transmit Antenna	GSM850			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel			128	189	251		128	189	251	
		Frequency (MHz)			824.2	836.4	848.8		824.2	836.4	848.8	
Near body	Ant 1	GSM 1 Tx slot			33.59	33.51	33.52	34.00	24.59	24.51	24.52	25.00
		GPRS 1 Tx slot			33.60	33.58	33.54	34.00	24.60	24.58	24.54	25.00
		GPRS 2 Tx slots			31.95	32.03	31.87	32.50	25.95	26.03	25.87	26.50
		GPRS 3 Tx slots			30.70	30.74	30.96	31.50	26.44	26.48	26.70	27.24
		GPRS 4 Tx slots			30.16	29.85	30.10	30.50	27.16	26.85	27.10	27.50
		EDGE 1 Tx slot			26.84	26.85	26.79	28.00	17.84	17.85	17.79	19.00
		EDGE 2 Tx slots			26.88	26.93	26.77	27.50	20.88	20.93	20.77	21.50
		EDGE 3 Tx slots			26.79	26.76	26.59	27.50	22.53	22.50	22.33	23.24
EDGE 4 Tx slots			25.35	25.27	25.08	25.50	22.35	22.27	22.08	22.50		



Power Selection	Transmit Antenna	GSM1900			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel	512	661	810	512	661		810			
		Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880		1909.8			
Head / Near body	Ant 0b	GSM 1 Tx slot	28.69	29.00	28.71	30.00	19.69	20.00	19.71	21.00		
		GPRS 1 Tx slot	28.81	29.03	28.75	30.00	19.81	20.03	19.75	21.00		
		GPRS 2 Tx slots	28.29	28.52	28.24	29.50	22.29	22.52	22.24	23.50		
		GPRS 3 Tx slots	27.64	27.96	27.70	29.00	23.38	23.70	23.44	24.74		
		GPRS 4 Tx slots	26.64	26.81	26.74	28.00	23.64	23.81	23.74	25.00		
		EDGE 1 Tx slot	24.79	24.93	24.79	26.00	15.79	15.93	15.79	17.00		
		EDGE 2 Tx slots	23.71	23.74	23.58	25.00	17.71	17.74	17.58	19.00		
		EDGE 3 Tx slots	23.56	23.49	23.44	25.00	19.30	19.23	19.18	20.74		
EDGE 4 Tx slots	22.44	22.24	22.14	24.00	19.44	19.24	19.14	21.00				

Power Selection	Transmit Antenna	GSM1900			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel	512	661	810	512	661		810			
		Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880		1909.8			
Head	Ant 1	GSM 1 Tx slot	28.19	28.45	28.20	29.50	19.19	19.45	19.20	20.50		
		GPRS 1 Tx slot	28.30	28.49	28.25	29.50	19.30	19.49	19.25	20.50		
		GPRS 2 Tx slots	25.25	25.48	25.23	26.50	19.25	19.48	19.23	20.50		
		GPRS 3 Tx slots	22.55	22.95	22.60	24.50	18.29	18.69	18.34	20.24		
		GPRS 4 Tx slots	21.68	21.61	21.55	23.50	18.68	18.61	18.55	20.50		
		EDGE 1 Tx slot	24.72	24.90	24.76	26.00	15.72	15.90	15.76	17.00		
		EDGE 2 Tx slots	23.71	23.74	23.58	25.00	17.71	17.74	17.58	19.00		
		EDGE 3 Tx slots	23.49	23.44	23.41	24.50	19.23	19.18	19.15	20.24		
EDGE 4 Tx slots	21.92	21.72	21.61	23.00	18.92	18.72	18.61	20.00				

Power Selection	Transmit Antenna	GSM1900			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel	512	661	810	512	661		810			
		Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880		1909.8			
Near body	Ant 1	GSM 1 Tx slot	28.69	29.00	28.71	30.00	19.69	20.00	19.71	21.00		
		GPRS 1 Tx slot	28.81	29.03	28.75	30.00	19.81	20.03	19.75	21.00		
		GPRS 2 Tx slots	28.29	28.52	28.24	29.50	22.29	22.52	22.24	23.50		
		GPRS 3 Tx slots	27.64	27.96	27.70	29.00	23.38	23.70	23.44	24.74		
		GPRS 4 Tx slots	26.64	26.81	26.74	28.00	23.64	23.81	23.74	25.00		
		EDGE 1 Tx slot	24.79	24.93	24.79	26.00	15.79	15.93	15.79	17.00		
		EDGE 2 Tx slots	23.71	23.74	23.58	25.00	17.71	17.74	17.58	19.00		
		EDGE 3 Tx slots	23.56	23.49	23.44	25.00	19.30	19.23	19.18	20.74		
EDGE 4 Tx slots	22.44	22.24	22.14	24.00	19.44	19.24	19.14	21.00				

**<WCDMA Conducted Power>**

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

**HSDPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters were set according to each
  - ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
  - iii. Set RMC 12.2Kbps + HSDPA mode.
  - iv. Set Cell Power = -86 dBm
  - v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
  - vi. Select HSDPA Uplink Parameters
  - vii. Set Delta ACK, Delta NACK and Delta CQI = 8
  - viii. Set Ack-Nack Repetition Factor to 3
  - ix. Set CQI Feedback Cycle (k) to 4 ms
  - x. Set CQI Repetition Factor to 2
  - xi. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

**Table C.10.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH**

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1:  $\Delta_{ACK}, \Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ .

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA,  $\Delta_{ACK}$  and  $\Delta_{NACK} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ , and  $\Delta_{CQI} = 24/15$  with  $\beta_{HS} = 24/15 * \beta_c$ .

Note 3: CM = 1 for  $\beta_c/\beta_d = 12/15, \beta_{HS}/\beta_c = 24/15$ . For all other combinations of DPCCH, DPDCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

**Setup Configuration**

**HSUPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting \* :
  - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
  - ii. Set the Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
  - iii. Set Cell Power = -86 dBm
  - iv. Set Channel Type = 12.2k + HSPA
  - v. Set UE Target Power
  - vi. Power Ctrl Mode= Alternating bits
  - vii. Set and observe the E-TFCl
  - viii. Confirm that E-TFCl is equal to the target E-TFCl of 75 for sub-test 1, and other subtest's E-TFCl
- d. The transmitted maximum output power was recorded.

**Table C.11.1.3:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH**

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note1)	$\beta_{ec}$	$\beta_{ed}$ (Note 4) (Note 5)	$\beta_{ed}$ (SF)	$\beta_{ed}$ (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCl
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}$ : 47/15 $\beta_{ed2}$ : 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ . For sub-test 5,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 5/15$  with  $\beta_{HS} = 5/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{HS}/\beta_c = 24/15$ . 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  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

**Setup Configuration**

**DC-HSDPA 3GPP release 8 Setup Configuration:**

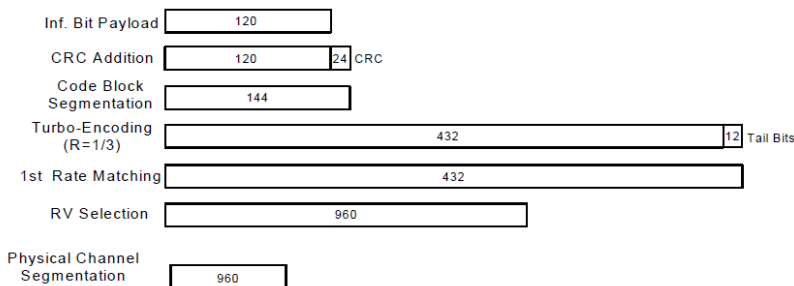
- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set RMC 12.2Kbps + HSDPA mode.
  - ii. Set Cell Power = -25 dBm
  - iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
  - iv. Select HSDPA Uplink Parameters
  - v. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
    - a). Subtest 1:  $\beta_c/\beta_d=2/15$
    - b). Subtest 2:  $\beta_c/\beta_d=12/15$
    - c). Subtest 3:  $\beta_c/\beta_d=15/8$
    - d). Subtest 4:  $\beta_c/\beta_d=15/4$
  - vi. Set Delta ACK, Delta NACK and Delta CQI = 8
  - vii. Set Ack-Nack Repetition Factor to 3
  - viii. Set CQI Feedback Cycle (k) to 4 ms
  - ix. Set CQI Repetition Factor to 2
  - x. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

**C.8.1.12 Fixed Reference Channel Definition H-Set 12**

**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)**

**Setup Configuration**



**<WCDMA Conducted Power>**

**General Note:**

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than  $\frac{1}{4}$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

Power Selection	Transmit Antenna	Band		WCDMA V		
		TX Channel		4132	4182	4233
		Rx Channel		4357	4407	4458
		Frequency (MHz)		826.4	836.4	846.6
Head / Near bod	Ant 0a	Max Power		25		
		3GPP Rel 99	AMR 12.2Kbps	24.65	24.69	24.59
		3GPP Rel 99	RMC 12.2Kbps	24.78	24.77	24.61
		Max Power		24		
		3GPP Rel 6	HSDPA Subtest-1	23.79	23.80	23.33
		3GPP Rel 6	HSDPA Subtest-2	23.78	23.80	23.35
		3GPP Rel 6	HSDPA Subtest-3	23.27	23.26	22.81
		3GPP Rel 6	HSDPA Subtest-4	23.27	23.28	22.80
		Max Power		24		
		3GPP Rel 8	DC-HSDPA Subtest-1	23.75	23.77	23.29
		3GPP Rel 8	DC-HSDPA Subtest-2	23.75	23.76	23.28
		3GPP Rel 8	DC-HSDPA Subtest-3	23.26	23.27	22.73
		3GPP Rel 8	DC-HSDPA Subtest-4	23.25	23.25	22.85
		Max Power		24		
		3GPP Rel 6	HSUPA Subtest-1	22.01	22.10	22.01
		3GPP Rel 6	HSUPA Subtest-2	21.83	21.82	21.45
		3GPP Rel 6	HSUPA Subtest-3	21.52	21.31	21.15
		3GPP Rel 6	HSUPA Subtest-4	21.82	21.83	21.43
		3GPP Rel 6	HSUPA Subtest-5	24.00	24.00	23.50



Power Selection	Transmit Antenna	Band		WCDMA II			WCDMA IV		
		TX Channel		9262	9400	9538	1312	1413	1513
		Rx Channel		9662	9800	9938	1537	1638	1738
		Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6
Head / Near bod	Ant 0b	Max Power		24.75			24.75		
		3GPP Rel 99	AMR 12.2Kbps	24.44	24.51	24.52	24.50	24.50	24.47
		3GPP Rel 99	RMC 12.2Kbps	24.48	24.52	24.53	24.53	24.52	24.49
		Max Power		23.75			23.75		
		3GPP Rel 6	HSDPA Subtest-1	23.34	23.48	23.50	23.55	23.50	23.48
		3GPP Rel 6	HSDPA Subtest-2	23.33	23.45	23.48	23.51	23.48	23.48
		3GPP Rel 6	HSDPA Subtest-3	22.83	22.95	23.00	23.03	22.99	22.98
		3GPP Rel 6	HSDPA Subtest-4	22.79	22.88	22.99	22.97	22.98	22.94
		Max Power		23.75			23.75		
		3GPP Rel 8	DC-HSDPA Subtest-1	23.12	23.22	23.28	23.30	23.29	23.29
		3GPP Rel 8	DC-HSDPA Subtest-2	23.15	23.23	23.30	23.33	23.30	23.25
		3GPP Rel 8	DC-HSDPA Subtest-3	22.64	22.73	22.77	22.79	22.77	22.76
		3GPP Rel 8	DC-HSDPA Subtest-4	22.61	22.70	22.75	22.73	22.75	22.72
		Max Power		23.75			23.75		
		3GPP Rel 6	HSUPA Subtest-1	23.37	23.54	23.47	23.50	23.45	23.54
		3GPP Rel 6	HSUPA Subtest-2	21.43	21.46	21.49	21.46	21.57	21.49
		3GPP Rel 6	HSUPA Subtest-3	22.38	22.47	22.49	22.52	22.52	22.48
		3GPP Rel 6	HSUPA Subtest-4	21.36	21.52	21.55	21.48	21.49	21.45
		3GPP Rel 6	HSUPA Subtest-5	23.40	23.50	23.50	23.50	23.50	23.50

Power Selection	Transmit Antenna	Band		WCDMA IV		
		TX Channel		1312	1413	1513
		Rx Channel		1537	1638	1738
		Frequency (MHz)		1712.4	1732.6	1752.6
Head / Near bod	Ant 0c	Max Power		24.75		
		3GPP Rel 99	AMR 12.2Kbps	24.50	24.50	24.47
		3GPP Rel 99	RMC 12.2Kbps	24.53	24.52	24.49
		Max Power		23.75		
		3GPP Rel 6	HSDPA Subtest-1	23.55	23.50	23.48
		3GPP Rel 6	HSDPA Subtest-2	23.51	23.48	23.48
		3GPP Rel 6	HSDPA Subtest-3	23.03	22.99	22.98
		3GPP Rel 6	HSDPA Subtest-4	22.97	22.98	22.94
		Max Power		23.75		
		3GPP Rel 8	DC-HSDPA Subtest-1	23.30	23.29	23.29
		3GPP Rel 8	DC-HSDPA Subtest-2	23.33	23.30	23.25
		3GPP Rel 8	DC-HSDPA Subtest-3	22.79	22.77	22.76
		3GPP Rel 8	DC-HSDPA Subtest-4	22.73	22.75	22.72
		Max Power		23.75		
		3GPP Rel 6	HSUPA Subtest-1	23.50	23.45	23.54
		3GPP Rel 6	HSUPA Subtest-2	21.46	21.57	21.49
		3GPP Rel 6	HSUPA Subtest-3	22.52	22.52	22.48
		3GPP Rel 6	HSUPA Subtest-4	21.48	21.49	21.45
		3GPP Rel 6	HSUPA Subtest-5	23.50	23.50	23.50



Power Selection	Transmit Antenna	Band		WCDMA II			WCDMA IV			WCDMA V		
		TX Channel		9262	9400	9538	1312	1413	1513	4132	4182	4233
		Rx Channel		9662	9800	9938	1537	1638	1738	4357	4407	4458
		Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6
Head	Ant 1	Max Power		20			21.5			23.5		
		3GPP Rel 99	AMR 12.2Kbps	18.57	18.64	18.59	20.16	20.17	20.15	21.81	21.82	21.78
		3GPP Rel 99	RMC 12.2Kbps	18.58	18.65	18.60	20.18	20.19	20.16	21.82	21.83	21.78
		Max Power		19			20.5			22.5		
		3GPP Rel 6	HSDPA Subtest-1	17.43	17.53	17.52	19.18	19.13	19.13	20.70	20.72	20.71
		3GPP Rel 6	HSDPA Subtest-2	17.34	17.49	17.58	19.21	19.15	19.08	20.70	20.70	20.72
		3GPP Rel 6	HSDPA Subtest-3	16.93	17.03	17.00	18.72	18.58	18.58	20.01	20.22	20.16
		3GPP Rel 6	HSDPA Subtest-4	16.84	16.90	17.04	18.62	18.65	18.62	20.02	20.23	20.11
		Max Power		19			20.5			22.5		
		3GPP Rel 8	DC-HSDPA Subtest-1	17.17	17.27	17.36	18.95	18.88	18.92	20.50	20.77	20.62
		3GPP Rel 8	DC-HSDPA Subtest-2	17.24	17.30	17.40	19.01	18.89	18.90	20.51	20.67	20.61
		3GPP Rel 8	DC-HSDPA Subtest-3	16.73	16.81	16.77	18.44	18.42	18.37	20.02	20.23	20.11
		3GPP Rel 8	DC-HSDPA Subtest-4	16.66	16.72	16.80	18.37	18.33	18.41	20.01	20.16	20.21
		Max Power		19			20.5			22.5		
		3GPP Rel 6	HSUPA Subtest-1	17.41	17.54	17.48	19.21	19.05	19.16	20.55	20.56	20.59
		3GPP Rel 6	HSUPA Subtest-2	15.51	15.46	15.49	17.15	17.22	17.16	18.59	18.78	18.76
		3GPP Rel 6	HSUPA Subtest-3	16.42	16.49	16.49	18.15	18.10	18.10	19.56	19.55	19.60
		3GPP Rel 6	HSUPA Subtest-4	15.37	15.53	15.64	17.15	17.14	17.15	18.59	18.78	18.75
		3GPP Rel 6	HSUPA Subtest-5	17.40	17.55	17.60	19.14	19.09	19.16	20.78	20.97	20.87

Power Selection	Transmit Antenna	Band		WCDMA II			WCDMA IV			WCDMA V		
		TX Channel		9262	9400	9538	1312	1413	1513	4132	4182	4233
		Rx Channel		9662	9800	9938	1537	1638	1738	4357	4407	4458
		Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6
Near body	Ant 1	Max Power		24.75			24.75			25		
		3GPP Rel 99	AMR 12.2Kbps	24.44	24.51	24.52	24.50	24.50	24.47	24.65	24.69	24.59
		3GPP Rel 99	RMC 12.2Kbps	24.48	24.52	24.53	24.53	24.52	24.49	24.78	24.77	24.61
		Max Power		23.75			23.75			24		
		3GPP Rel 6	HSDPA Subtest-1	23.34	23.48	23.50	23.55	23.50	23.48	23.79	23.80	23.33
		3GPP Rel 6	HSDPA Subtest-2	23.33	23.45	23.48	23.51	23.48	23.48	23.78	23.80	23.35
		3GPP Rel 6	HSDPA Subtest-3	22.83	22.95	23.00	23.03	22.99	22.98	23.27	23.26	22.81
		3GPP Rel 6	HSDPA Subtest-4	22.79	22.88	22.99	22.97	22.98	22.94	23.27	23.28	22.80
		Max Power		23.75			23.75			24		
		3GPP Rel 8	DC-HSDPA Subtest-1	23.12	23.22	23.28	23.30	23.29	23.29	23.75	23.77	23.29
		3GPP Rel 8	DC-HSDPA Subtest-2	23.15	23.23	23.30	23.33	23.30	23.25	23.75	23.76	23.28
		3GPP Rel 8	DC-HSDPA Subtest-3	22.64	22.73	22.77	22.79	22.77	22.76	23.26	23.27	22.73
		3GPP Rel 8	DC-HSDPA Subtest-4	22.61	22.70	22.75	22.73	22.75	22.72	23.25	23.25	22.85
		Max Power		23.75			23.75			24		
		3GPP Rel 6	HSUPA Subtest-1	23.37	23.54	23.47	23.50	23.45	23.54	22.01	22.10	22.01
		3GPP Rel 6	HSUPA Subtest-2	21.43	21.46	21.49	21.46	21.57	21.49	21.83	21.82	21.45
		3GPP Rel 6	HSUPA Subtest-3	22.38	22.47	22.49	22.52	22.52	22.48	21.52	21.31	21.15
		3GPP Rel 6	HSUPA Subtest-4	21.36	21.52	21.55	21.48	21.49	21.45	21.82	21.83	21.43
		3GPP Rel 6	HSUPA Subtest-5	23.40	23.50	23.50	23.50	23.50	23.50	24.00	24.00	23.50



**<LTE Conducted Power>**

**General Note:**

1. Anritsu MT8820C 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 D05v02r05, 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 D05v02r05, 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 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, 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  $\leq 0.8$  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 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4/B12/B13/B26/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
  - a. the maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion
  - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



**64QAM**



**16QAM**



**<LTE Band 2>**

SAR for LTE B2 is covered by LTE B25 due to overlapping frequency range, less or same maximum tune-up limit and the same channel bandwidth

**<LTE Band 4>**

Ant 0b & Ant 1 SAR for LTE B4 is covered by LTE B66 due to overlapping frequency range, less or same maximum tune-up limit and the same channel bandwidth

Power Selection				Head / Near body		
Transmit Antenna				Ant 0c		
Max. Power				24.75		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	QPSK	1	0	24.32	24.26	24.28
20	QPSK	1	49	24.20	24.17	24.19
20	QPSK	1	99	24.20	24.19	24.20
20	QPSK	50	0	23.37	23.34	23.36
20	QPSK	50	24	23.35	23.31	23.35
20	QPSK	50	50	23.32	23.29	23.34
20	QPSK	100	0	23.36	23.30	23.35
20	16QAM	1	0	23.60	23.54	23.60
20	16QAM	1	49	23.45	23.46	23.46
20	16QAM	1	99	23.46	23.46	23.46
20	16QAM	50	0	22.39	22.34	22.38
20	16QAM	50	24	22.38	22.34	22.38
20	16QAM	50	50	22.35	22.32	22.35
20	16QAM	100	0	22.37	22.33	22.34
20	64QAM	1	0	22.53	22.54	22.52
20	64QAM	1	49	22.42	22.43	22.43
20	64QAM	1	99	22.42	22.38	22.43
20	64QAM	50	0	21.40	21.36	21.39
20	64QAM	50	24	21.40	21.33	21.40
20	64QAM	50	50	21.34	21.32	21.36
20	64QAM	100	0	21.36	21.32	21.37
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	24.16	24.12	24.12
15	QPSK	1	37	24.14	24.14	23.92
15	QPSK	1	74	24.16	24.11	24.13
15	QPSK	36	0	23.20	23.18	23.18
15	QPSK	36	20	23.22	23.23	23.30
15	QPSK	36	39	23.17	23.29	23.25
15	QPSK	75	0	23.18	23.18	23.22
15	16QAM	1	0	23.31	23.42	23.57
15	16QAM	1	37	23.31	23.35	23.18
15	16QAM	1	74	23.49	23.39	23.37
15	16QAM	36	0	22.23	22.16	22.24
15	16QAM	36	20	22.20	22.28	22.23
15	16QAM	36	39	22.15	22.14	22.31
15	16QAM	75	0	22.24	22.25	22.19
15	64QAM	1	0	22.53	22.32	22.46
15	64QAM	1	37	22.62	22.28	22.33
15	64QAM	1	74	22.43	22.33	22.28
15	64QAM	36	0	21.21	21.21	21.30
15	64QAM	36	20	21.21	21.28	21.32



15	64QAM	36	39	21.23	21.26	21.17
15	64QAM	75	0	21.25	21.22	21.28
Channel				20000	20175	20350
Frequency (MHz)				1715	1732.5	1750
10	QPSK	1	0	23.90	24.11	23.77
10	QPSK	1	25	23.99	23.86	24.16
10	QPSK	1	49	23.78	23.98	23.98
10	QPSK	25	0	23.09	23.11	23.13
10	QPSK	25	12	23.11	23.15	23.10
10	QPSK	25	25	23.00	23.02	23.07
10	QPSK	50	0	23.08	23.01	23.09
10	16QAM	1	0	23.13	23.25	23.74
10	16QAM	1	25	23.42	23.01	23.46
10	16QAM	1	49	23.04	23.09	23.35
10	16QAM	25	0	22.17	22.02	22.20
10	16QAM	25	12	22.20	22.08	22.19
10	16QAM	25	25	22.18	21.96	22.09
10	16QAM	50	0	22.04	22.08	22.08
10	64QAM	1	0	22.21	22.01	21.94
10	64QAM	1	25	21.97	22.06	22.30
10	64QAM	1	49	22.09	22.01	22.22
10	64QAM	25	0	21.10	21.10	21.20
10	64QAM	25	12	21.05	21.06	21.22
10	64QAM	25	25	21.05	20.97	21.15
10	64QAM	50	0	21.13	20.99	21.13
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	23.90	23.93	24.07
5	QPSK	1	12	24.03	23.89	24.09
5	QPSK	1	24	24.06	24.00	23.99
5	QPSK	12	0	23.00	23.05	23.10
5	QPSK	12	7	23.16	23.14	23.22
5	QPSK	12	13	23.08	23.03	23.17
5	QPSK	25	0	23.07	23.02	23.15
5	16QAM	1	0	23.11	23.10	23.18
5	16QAM	1	12	23.55	23.28	23.48
5	16QAM	1	24	23.46	23.30	23.08
5	16QAM	12	0	22.07	22.02	22.09
5	16QAM	12	7	22.14	22.04	22.17
5	16QAM	12	13	22.14	22.10	22.15
5	16QAM	25	0	22.18	22.13	22.17
5	64QAM	1	0	22.32	22.40	22.15
5	64QAM	1	12	22.19	22.18	22.21
5	64QAM	1	24	22.33	22.07	22.29
5	64QAM	12	0	21.19	21.18	21.16
5	64QAM	12	7	21.31	21.21	21.25
5	64QAM	12	13	21.07	21.09	21.14
5	64QAM	25	0	21.14	21.08	21.20
Channel				19965	20175	20385
Frequency (MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	23.96	23.94	23.98
3	QPSK	1	8	24.12	24.10	24.19
3	QPSK	1	14	24.06	24.05	23.91
3	QPSK	8	0	23.10	23.07	23.07
3	QPSK	8	4	23.13	23.13	23.16
3	QPSK	8	7	23.14	23.09	23.21



3	QPSK	15	0	23.16	23.08	23.19
3	16QAM	1	0	23.34	22.99	23.14
3	16QAM	1	8	23.30	23.26	23.54
3	16QAM	1	14	22.92	23.46	23.36
3	16QAM	8	0	22.13	22.07	22.06
3	16QAM	8	4	22.22	22.19	22.36
3	16QAM	8	7	22.31	22.24	22.32
3	16QAM	15	0	22.09	22.10	22.31
3	64QAM	1	0	22.29	22.20	22.06
3	64QAM	1	8	22.49	22.40	22.25
3	64QAM	1	14	22.33	22.35	22.38
3	64QAM	8	0	21.18	21.11	21.21
3	64QAM	8	4	21.20	21.19	21.23
3	64QAM	8	7	21.18	21.07	21.13
3	64QAM	15	0	21.18	21.18	21.31
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	24.01	23.86	23.92
1.4	QPSK	1	3	24.05	23.93	24.09
1.4	QPSK	1	5	23.97	23.96	24.01
1.4	QPSK	3	0	23.99	23.96	23.94
1.4	QPSK	3	1	23.97	24.01	23.98
1.4	QPSK	3	3	24.09	23.93	23.99
1.4	QPSK	6	0	23.04	23.05	23.10
1.4	16QAM	1	0	23.09	23.20	22.84
1.4	16QAM	1	3	23.22	23.41	23.28
1.4	16QAM	1	5	23.13	23.10	23.20
1.4	16QAM	3	0	23.02	23.05	23.00
1.4	16QAM	3	1	23.18	23.05	23.03
1.4	16QAM	3	3	23.16	23.00	23.06
1.4	16QAM	6	0	22.14	22.11	22.06
1.4	64QAM	1	0	22.15	21.75	22.24
1.4	64QAM	1	3	22.30	22.20	22.20
1.4	64QAM	1	5	21.88	22.12	22.14
1.4	64QAM	3	0	22.18	22.16	22.23
1.4	64QAM	3	1	22.30	22.13	21.94
1.4	64QAM	3	3	22.16	22.18	22.24
1.4	64QAM	6	0	21.11	21.05	21.06



<LTE Band 5>

SAR for LTE B5 is covered by LTE B26 due to overlapping frequency range, less or same maximum tune-up limit and the same channel bandwidth

<LTE Band 7>

Power Selection				Head			Near body		
Transmit Antenna				Ant Ob					
Max. Power				24.8			19		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20850	21100	21350	20850	21100	21350
Frequency (MHz)				2510	2535	2560	2510	2535	2560
20	QPSK	1	0	24.33	24.29	24.39	17.30	17.29	17.29
20	QPSK	1	49	24.33	24.28	24.41	17.29	17.23	17.28
20	QPSK	1	99	24.48	24.44	24.46	17.28	17.28	17.26
20	QPSK	50	0	23.41	23.44	23.55	17.39	17.38	17.38
20	QPSK	50	24	23.49	23.49	23.52	17.38	17.35	17.37
20	QPSK	50	50	23.55	23.50	23.49	17.37	17.36	17.36
20	QPSK	100	0	23.48	23.48	23.51	17.45	17.38	17.44
20	16QAM	1	0	23.55	23.55	23.62	17.49	17.41	17.44
20	16QAM	1	49	23.61	23.56	23.66	17.45	17.49	17.44
20	16QAM	1	99	23.71	23.64	23.77	17.49	17.48	17.50
20	16QAM	50	0	22.42	22.46	22.54	17.39	17.41	17.36
20	16QAM	50	24	22.51	22.49	22.55	17.45	17.42	17.35
20	16QAM	50	50	22.56	22.52	22.51	17.47	17.40	17.33
20	16QAM	100	0	22.47	22.47	22.50	17.40	17.39	17.33
20	64QAM	1	0	22.56	22.51	22.62	17.40	17.47	17.39
20	64QAM	1	49	22.55	22.51	22.58	17.41	17.46	17.44
20	64QAM	1	99	22.70	22.61	22.70	17.41	17.41	17.45
20	64QAM	50	0	21.42	21.47	21.53	17.41	17.41	17.40
20	64QAM	50	24	21.52	21.50	21.54	17.47	17.43	17.39
20	64QAM	50	50	21.55	21.53	20.88	17.48	17.40	17.35
20	64QAM	100	0	21.49	21.47	21.53	17.45	17.39	17.35
Channel				20825	21100	21375	20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5	2507.5	2535	2562.5
15	QPSK	1	0	24.11	24.00	24.19	17.21	17.21	17.24
15	QPSK	1	37	24.15	24.22	24.25	17.26	17.22	17.22
15	QPSK	1	74	24.32	24.26	24.31	17.23	17.29	17.25
15	QPSK	36	0	23.26	23.27	23.27	17.34	17.42	17.45
15	QPSK	36	20	23.29	23.29	23.35	17.35	17.40	17.39
15	QPSK	36	39	23.30	23.32	23.35	17.47	17.36	17.42
15	QPSK	75	0	23.32	23.31	23.36	17.43	17.33	17.37
15	16QAM	1	0	23.29	23.62	23.43	17.42	17.36	17.41
15	16QAM	1	37	23.45	23.31	23.03	17.41	17.48	17.42
15	16QAM	1	74	23.23	23.31	23.44	17.44	17.45	17.42
15	16QAM	36	0	22.24	22.29	22.30	17.37	17.31	17.36
15	16QAM	36	20	22.41	22.31	22.32	17.41	17.33	17.29
15	16QAM	36	39	22.40	22.30	22.32	17.47	17.34	17.32
15	16QAM	75	0	22.34	22.24	22.31	17.38	17.39	17.28
15	64QAM	1	0	22.48	22.50	22.05	17.31	17.45	17.36
15	64QAM	1	37	22.40	22.51	22.60	17.37	17.39	17.36
15	64QAM	1	74	22.68	22.60	22.30	17.40	17.39	17.44
15	64QAM	36	0	21.24	21.29	21.33	17.40	17.35	17.36
15	64QAM	36	20	21.30	21.30	21.37	17.45	17.43	17.32
15	64QAM	36	39	21.35	21.25	21.37	17.44	17.30	17.33
15	64QAM	75	0	21.28	21.21	21.47	17.40	17.38	17.32



Channel				20800	21100	21400	20800	21100	21400
Frequency (MHz)				2505	2535	2565	2505	2535	2565
10	QPSK	1	0	23.84	23.73	24.06	17.25	17.23	17.27
10	QPSK	1	25	23.91	24.12	23.87	17.20	17.23	17.23
10	QPSK	1	49	24.16	24.10	24.08	17.29	17.27	17.32
10	QPSK	25	0	23.06	23.05	23.15	17.39	17.41	17.39
10	QPSK	25	12	23.03	23.10	23.11	17.39	17.36	17.42
10	QPSK	25	25	23.09	23.15	23.03	17.44	17.39	17.40
10	QPSK	50	0	23.09	23.12	23.11	17.38	17.37	17.40
10	16QAM	1	0	23.41	23.27	23.13	17.48	17.38	17.40
10	16QAM	1	25	23.54	23.45	23.37	17.45	17.43	17.44
10	16QAM	1	49	23.17	23.21	22.98	17.45	17.44	17.48
10	16QAM	25	0	22.17	22.10	22.11	17.29	17.41	17.31
10	16QAM	25	12	22.17	22.09	22.13	17.37	17.33	17.28
10	16QAM	25	25	22.13	22.07	22.13	17.42	17.36	17.31
10	16QAM	50	0	22.12	22.19	22.15	17.39	17.38	17.27
10	64QAM	1	0	22.02	22.36	22.19	17.30	17.43	17.39
10	64QAM	1	25	22.28	22.29	22.39	17.32	17.46	17.35
10	64QAM	1	49	22.09	22.42	22.12	17.36	17.32	17.42
10	64QAM	25	0	21.14	21.19	21.02	17.34	17.34	17.32
10	64QAM	25	12	21.16	21.15	21.06	17.47	17.41	17.34
10	64QAM	25	25	21.14	21.14	21.18	17.39	17.37	17.35
10	64QAM	50	0	21.13	21.15	21.06	17.39	17.37	17.27
Channel				20775	21100	21425	20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5	2502.5	2535	2567.5
5	QPSK	1	0	23.99	24.02	24.06	17.24	17.21	17.28
5	QPSK	1	12	24.15	24.10	24.02	17.21	17.18	17.30
5	QPSK	1	24	24.06	24.12	24.08	17.26	17.28	17.31
5	QPSK	12	0	23.17	23.09	23.21	17.29	17.36	17.43
5	QPSK	12	7	23.29	23.33	23.27	17.39	17.43	17.43
5	QPSK	12	13	23.30	23.28	23.22	17.44	17.38	17.35
5	QPSK	25	0	23.16	23.12	23.16	17.42	17.29	17.34
5	16QAM	1	0	23.42	23.24	22.99	17.41	17.31	17.42
5	16QAM	1	12	23.33	23.32	23.04	17.43	17.48	17.39
5	16QAM	1	24	23.02	23.32	23.04	17.39	17.40	17.48
5	16QAM	12	0	22.17	22.04	22.21	17.32	17.36	17.27
5	16QAM	12	7	22.20	22.40	22.20	17.42	17.37	17.29
5	16QAM	12	13	22.26	22.25	22.31	17.44	17.32	17.32
5	16QAM	25	0	22.15	22.18	22.24	17.38	17.35	17.27
5	64QAM	1	0	22.37	22.15	22.45	17.35	17.42	17.30
5	64QAM	1	12	22.58	22.11	22.15	17.41	17.43	17.40
5	64QAM	1	24	22.44	22.48	22.36	17.40	17.40	17.35
5	64QAM	12	0	21.19	21.28	21.19	17.38	17.33	17.32
5	64QAM	12	7	21.30	21.35	21.35	17.46	17.42	17.31
5	64QAM	12	13	21.28	21.41	21.29	17.48	17.40	17.31
5	64QAM	25	0	21.17	21.21	21.16	17.35	17.37	17.25



Power Selection				Head			Near body		
Transmit Antenna				Ant 0c					
Max. Power				24.5			24.8		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20850	21100	21350	20850	21100	21350
Frequency (MHz)				2510	2535	2560	2510	2535	2560
20	QPSK	1	0	22.89	22.96	23.03	22.89	22.96	23.03
20	QPSK	1	49	22.96	22.98	23.06	22.96	22.98	23.06
20	QPSK	1	99	23.08	23.08	23.13	23.08	23.08	23.13
20	QPSK	50	0	23.01	23.14	23.21	23.01	23.14	23.21
20	QPSK	50	24	23.12	23.15	23.21	23.12	23.15	23.21
20	QPSK	50	50	23.16	23.17	23.22	23.16	23.17	23.22
20	QPSK	100	0	23.12	23.16	23.19	23.12	23.16	23.19
20	16QAM	1	0	23.19	23.24	23.27	23.19	23.24	23.27
20	16QAM	1	49	23.22	23.31	23.35	23.22	23.31	23.35
20	16QAM	1	99	23.37	23.37	23.41	23.37	23.37	23.41
20	16QAM	50	0	22.06	22.16	22.23	22.06	22.16	22.23
20	16QAM	50	24	22.13	22.20	22.26	22.13	22.20	22.26
20	16QAM	50	50	22.17	22.20	22.21	22.17	22.20	22.21
20	16QAM	100	0	22.12	22.16	22.19	22.12	22.16	22.19
20	64QAM	1	0	22.14	22.23	22.26	22.14	22.23	22.26
20	64QAM	1	49	22.20	22.22	22.30	22.20	22.22	22.30
20	64QAM	1	99	22.32	22.32	22.36	22.32	22.32	22.36
20	64QAM	50	0	21.07	21.16	21.26	21.07	21.16	21.26
20	64QAM	50	24	21.15	21.18	21.26	21.15	21.18	21.26
20	64QAM	50	50	21.20	21.21	21.22	21.20	21.21	21.22
20	64QAM	100	0	21.13	21.17	21.20	21.13	21.17	21.20
Channel				20825	21100	21375	20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5	2507.5	2535	2562.5
15	QPSK	1	0	22.85	22.87	23.01	22.85	22.87	23.01
15	QPSK	1	37	22.91	22.94	23.06	22.91	22.94	23.06
15	QPSK	1	74	23.08	23.01	23.13	23.08	23.01	23.13
15	QPSK	36	0	22.93	23.10	23.12	22.93	23.10	23.12
15	QPSK	36	20	23.10	23.05	23.17	23.10	23.05	23.17
15	QPSK	36	39	23.11	23.17	23.12	23.11	23.17	23.12
15	QPSK	75	0	23.03	23.07	23.18	23.03	23.07	23.18
15	16QAM	1	0	23.10	23.24	23.25	23.10	23.24	23.25
15	16QAM	1	37	23.20	23.25	23.29	23.20	23.25	23.29
15	16QAM	1	74	23.34	23.36	23.32	23.34	23.36	23.32
15	16QAM	36	0	22.01	22.11	22.23	22.01	22.11	22.23
15	16QAM	36	20	22.06	22.19	22.20	22.06	22.19	22.20
15	16QAM	36	39	22.08	22.15	22.12	22.08	22.15	22.12
15	16QAM	75	0	22.05	22.07	22.17	22.05	22.07	22.17
15	64QAM	1	0	22.08	22.15	22.22	22.08	22.15	22.22
15	64QAM	1	37	22.20	22.18	22.29	22.20	22.18	22.29
15	64QAM	1	74	22.24	22.25	22.26	22.24	22.25	22.26
15	64QAM	36	0	21.03	21.15	21.26	21.03	21.15	21.26
15	64QAM	36	20	21.07	21.16	21.22	21.07	21.16	21.22
15	64QAM	36	39	21.11	21.12	21.13	21.11	21.12	21.13
15	64QAM	75	0	21.10	21.11	21.13	21.10	21.11	21.13
Channel				20800	21100	21400	20800	21100	21400
Frequency (MHz)				2505	2535	2565	2505	2535	2565
10	QPSK	1	0	22.82	22.88	22.99	22.82	22.88	22.99
10	QPSK	1	25	22.89	22.91	22.96	22.89	22.91	22.96



10	QPSK	1	49	23.07	23.06	23.07	23.07	23.06	23.07
10	QPSK	25	0	22.97	23.09	23.12	22.97	23.09	23.12
10	QPSK	25	12	23.09	23.11	23.12	23.09	23.11	23.12
10	QPSK	25	25	23.15	23.07	23.14	23.15	23.07	23.14
10	QPSK	50	0	23.12	23.14	23.19	23.12	23.14	23.19
10	16QAM	1	0	23.18	23.23	23.27	23.18	23.23	23.27
10	16QAM	1	25	23.19	23.25	23.28	23.19	23.25	23.28
10	16QAM	1	49	23.36	23.37	23.33	23.36	23.37	23.33
10	16QAM	25	0	22.05	22.09	22.18	22.05	22.09	22.18
10	16QAM	25	12	22.12	22.19	22.20	22.12	22.19	22.20
10	16QAM	25	25	22.14	22.18	22.20	22.14	22.18	22.20
10	16QAM	50	0	22.04	22.12	22.09	22.04	22.12	22.09
10	64QAM	1	0	22.11	22.13	22.18	22.11	22.13	22.18
10	64QAM	1	25	22.14	22.21	22.29	22.14	22.21	22.29
10	64QAM	1	49	22.23	22.30	22.30	22.23	22.30	22.30
10	64QAM	25	0	21.05	21.06	21.20	21.05	21.06	21.20
10	64QAM	25	12	21.05	21.13	21.22	21.05	21.13	21.22
10	64QAM	25	25	21.17	21.20	21.20	21.17	21.20	21.20
10	64QAM	50	0	21.10	21.08	21.16	21.10	21.08	21.16
Channel				20775	21100	21425	20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5	2502.5	2535	2567.5
5	QPSK	1	0	22.84	22.87	22.96	22.84	22.87	22.96
5	QPSK	1	12	22.91	22.94	22.98	22.91	22.94	22.98
5	QPSK	1	24	23.02	23.05	23.07	23.02	23.05	23.07
5	QPSK	12	0	22.96	23.09	23.20	22.96	23.09	23.20
5	QPSK	12	7	23.04	23.15	23.12	23.04	23.15	23.12
5	QPSK	12	13	23.09	23.08	23.22	23.09	23.08	23.22
5	QPSK	25	0	23.11	23.10	23.13	23.11	23.10	23.13
5	16QAM	1	0	23.09	23.22	23.24	23.09	23.22	23.24
5	16QAM	1	12	23.15	23.25	23.35	23.15	23.25	23.35
5	16QAM	1	24	23.29	23.27	23.40	23.29	23.27	23.40
5	16QAM	12	0	22.05	22.13	22.14	22.05	22.13	22.14
5	16QAM	12	7	22.03	22.15	22.17	22.03	22.15	22.17
5	16QAM	12	13	22.14	22.11	22.15	22.14	22.11	22.15
5	16QAM	25	0	22.11	22.08	22.12	22.11	22.08	22.12
5	64QAM	1	0	22.07	22.18	22.19	22.07	22.18	22.19
5	64QAM	1	12	22.15	22.18	22.23	22.15	22.18	22.23
5	64QAM	1	24	22.30	22.32	22.27	22.30	22.32	22.27
5	64QAM	12	0	21.01	21.15	21.22	21.01	21.15	21.22
5	64QAM	12	7	21.14	21.16	21.23	21.14	21.16	21.23
5	64QAM	12	13	21.19	21.16	21.13	21.19	21.16	21.13
5	64QAM	25	0	21.10	21.12	21.18	21.10	21.12	21.18





Power Selection				Head			Near body		
Transmit Antenna				Ant 1					
Max. Power				19.5			24.8		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20850	21100	21350	20850	21100	21350
Frequency (MHz)				2510	2535	2560	2510	2535	2560
20	QPSK	1	0	17.86	17.92	17.99	24.33	24.29	24.39
20	QPSK	1	49	17.92	17.94	18.02	24.33	24.28	24.41
20	QPSK	1	99	18.03	18.02	18.11	24.48	24.44	24.46
20	QPSK	50	0	18.00	18.08	18.16	23.41	23.44	23.55
20	QPSK	50	24	18.09	18.11	18.17	23.49	23.49	23.52
20	QPSK	50	50	18.14	18.14	18.18	23.55	23.50	23.49
20	QPSK	100	0	18.07	18.11	18.17	23.48	23.48	23.51
20	16QAM	1	0	18.16	18.16	18.24	23.55	23.55	23.62
20	16QAM	1	49	18.23	18.25	18.32	23.61	23.56	23.66
20	16QAM	1	99	18.32	18.30	18.40	23.71	23.64	23.77
20	16QAM	50	0	18.01	18.11	18.19	22.42	22.46	22.54
20	16QAM	50	24	18.11	18.11	18.22	22.51	22.49	22.55
20	16QAM	50	50	18.17	18.17	18.18	22.56	22.52	22.51
20	16QAM	100	0	18.08	18.12	18.16	22.47	22.47	22.50
20	64QAM	1	0	18.13	18.16	18.19	22.56	22.51	22.62
20	64QAM	1	49	18.18	18.20	18.27	22.55	22.51	22.58
20	64QAM	1	99	18.28	18.30	18.35	22.70	22.61	22.70
20	64QAM	50	0	18.04	18.13	18.23	21.42	21.47	21.53
20	64QAM	50	24	18.15	18.16	18.24	21.52	21.50	21.54
20	64QAM	50	50	18.20	18.20	18.21	21.55	21.53	20.88
20	64QAM	100	0	18.14	18.16	18.21	21.49	21.47	21.53
Channel				20825	21100	21375	20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5	2507.5	2535	2562.5
15	QPSK	1	0	17.76	17.88	17.99	24.11	24.00	24.19
15	QPSK	1	37	17.87	17.87	18.02	24.15	24.22	24.25
15	QPSK	1	74	17.93	17.95	18.04	24.32	24.26	24.31
15	QPSK	36	0	17.97	18.06	18.10	23.26	23.27	23.27
15	QPSK	36	20	17.99	18.07	18.08	23.29	23.29	23.35
15	QPSK	36	39	18.04	18.11	18.10	23.30	23.32	23.35
15	QPSK	75	0	18.01	18.02	18.09	23.32	23.31	23.36
15	16QAM	1	0	18.10	18.09	18.21	23.29	23.62	23.43
15	16QAM	1	37	18.14	18.15	18.32	23.45	23.31	23.03
15	16QAM	1	74	18.30	18.27	18.34	23.23	23.31	23.44
15	16QAM	36	0	17.95	18.10	18.18	22.24	22.29	22.30
15	16QAM	36	20	18.08	18.09	18.15	22.41	22.31	22.32
15	16QAM	36	39	18.14	18.15	18.16	22.40	22.30	22.32
15	16QAM	75	0	18.00	18.06	18.11	22.34	22.24	22.31
15	64QAM	1	0	18.09	18.08	18.11	22.48	22.50	22.05
15	64QAM	1	37	18.14	18.15	18.18	22.40	22.51	22.60
15	64QAM	1	74	18.25	18.22	18.27	22.68	22.60	22.30
15	64QAM	36	0	17.98	18.05	18.18	21.24	21.29	21.33
15	64QAM	36	20	18.09	18.10	18.21	21.30	21.30	21.37
15	64QAM	36	39	18.10	18.19	18.11	21.35	21.25	21.37
15	64QAM	75	0	18.11	18.07	18.19	21.28	21.21	21.47
Channel				20800	21100	21400	20800	21100	21400
Frequency (MHz)				2505	2535	2565	2505	2535	2565
10	QPSK	1	0	17.76	17.86	17.97	23.84	23.73	24.06
10	QPSK	1	25	17.83	17.92	17.99	23.91	24.12	23.87



10	QPSK	1	49	17.96	18.00	18.11	24.16	24.10	24.08
10	QPSK	25	0	17.95	18.02	18.14	23.06	23.05	23.15
10	QPSK	25	12	18.07	18.01	18.12	23.03	23.10	23.11
10	QPSK	25	25	18.10	18.09	18.14	23.09	23.15	23.03
10	QPSK	50	0	18.04	18.01	18.11	23.09	23.12	23.11
10	16QAM	1	0	18.09	18.13	18.20	23.41	23.27	23.13
10	16QAM	1	25	18.23	18.16	18.29	23.54	23.45	23.37
10	16QAM	1	49	18.24	18.30	18.33	23.17	23.21	22.98
10	16QAM	25	0	17.96	18.01	18.11	22.17	22.10	22.11
10	16QAM	25	12	18.05	18.04	18.17	22.17	22.09	22.13
10	16QAM	25	25	18.08	18.13	18.14	22.13	22.07	22.13
10	16QAM	50	0	17.99	18.10	18.11	22.12	22.19	22.15
10	64QAM	1	0	18.03	18.09	18.14	22.02	22.36	22.19
10	64QAM	1	25	18.11	18.20	18.21	22.28	22.29	22.39
10	64QAM	1	49	18.27	18.23	18.32	22.09	22.42	22.12
10	64QAM	25	0	18.03	18.11	18.16	21.14	21.19	21.02
10	64QAM	25	12	18.09	18.07	18.14	21.16	21.15	21.06
10	64QAM	25	25	18.15	18.15	18.13	21.14	21.14	21.18
10	64QAM	50	0	18.04	18.16	18.18	21.13	21.15	21.06
Channel				20775	21100	21425	20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5	2502.5	2535	2567.5
5	QPSK	1	0	17.77	17.92	17.95	23.99	24.02	24.06
5	QPSK	1	12	17.89	17.89	18.01	24.15	24.10	24.02
5	QPSK	1	24	18.01	17.99	18.01	24.06	24.12	24.08
5	QPSK	12	0	17.96	17.99	18.14	23.17	23.09	23.21
5	QPSK	12	7	18.06	18.10	18.10	23.29	23.33	23.27
5	QPSK	12	13	18.14	18.06	18.14	23.30	23.28	23.22
5	QPSK	25	0	18.07	18.03	18.11	23.16	23.12	23.16
5	16QAM	1	0	18.07	18.10	18.15	23.42	23.24	22.99
5	16QAM	1	12	18.14	18.16	18.22	23.33	23.32	23.04
5	16QAM	1	24	18.26	18.30	18.33	23.02	23.32	23.04
5	16QAM	12	0	18.00	18.06	18.19	22.17	22.04	22.21
5	16QAM	12	7	18.08	18.05	18.13	22.20	22.40	22.20
5	16QAM	12	13	18.09	18.13	18.15	22.26	22.25	22.31
5	16QAM	25	0	18.06	18.09	18.13	22.15	22.18	22.24
5	64QAM	1	0	18.11	18.07	18.16	22.37	22.15	22.45
5	64QAM	1	12	18.12	18.17	18.24	22.58	22.11	22.15
5	64QAM	1	24	18.28	18.30	18.29	22.44	22.48	22.36
5	64QAM	12	0	18.00	18.11	18.23	21.19	21.28	21.19
5	64QAM	12	7	18.07	18.06	18.16	21.30	21.35	21.35
5	64QAM	12	13	18.17	18.20	18.13	21.28	21.41	21.29
5	64QAM	25	0	18.07	18.07	18.12	21.17	21.21	21.16



<LTE Band 12>

Power Selection				Head					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			24		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23060	23095	23130	23060	23095	23130
Frequency (MHz)				704	707.5	711	704	707.5	711
10	QPSK	1	0	24.51	24.52	24.68	22.73	22.67	22.75
10	QPSK	1	25	24.60	24.58	24.55	22.82	22.72	22.80
10	QPSK	1	49	24.64	24.56	24.58	22.90	22.73	22.89
10	QPSK	25	0	23.72	23.69	23.73	22.82	22.81	22.79
10	QPSK	25	12	23.72	23.71	23.69	22.85	22.84	22.84
10	QPSK	25	25	23.71	23.70	23.69	22.82	22.82	22.82
10	QPSK	50	0	23.71	23.70	23.72	22.85	22.82	22.81
10	16QAM	1	0	23.89	23.87	23.94	23.06	23.02	23.04
10	16QAM	1	25	23.90	23.87	23.87	23.12	23.12	23.15
10	16QAM	1	49	23.98	23.95	23.82	23.18	23.21	23.14
10	16QAM	25	0	22.71	22.72	22.70	22.48	22.47	22.44
10	16QAM	25	12	22.74	22.74	22.74	22.50	22.49	22.49
10	16QAM	25	25	22.73	22.75	22.69	22.46	22.49	22.46
10	16QAM	50	0	22.75	22.73	22.73	22.49	22.45	22.47
10	64QAM	1	0	22.78	22.75	22.88	22.59	22.56	22.52
10	64QAM	1	25	22.85	22.86	22.84	22.55	22.57	22.58
10	64QAM	1	49	22.87	22.85	22.81	22.70	22.74	22.57
10	64QAM	25	0	21.72	21.74	21.71	21.50	21.47	21.46
10	64QAM	25	12	21.77	21.77	21.74	21.53	21.50	21.53
10	64QAM	25	25	21.76	21.76	21.71	21.52	21.48	21.49
10	64QAM	50	0	21.74	21.76	21.76	21.50	21.50	21.50
Channel				23035	23095	23155	23035	23095	23155
Frequency (MHz)				701.5	707.5	713.5	701.5	707.5	713.5
5	QPSK	1	0	24.50	24.52	24.52	22.69	22.74	22.65
5	QPSK	1	12	24.65	24.64	24.62	22.81	22.81	22.71
5	QPSK	1	24	24.66	24.65	24.62	22.88	22.83	22.86
5	QPSK	12	0	23.64	23.64	23.63	22.86	22.83	22.83
5	QPSK	12	7	23.79	23.77	23.68	22.97	22.95	22.95
5	QPSK	12	13	23.74	23.76	23.74	22.91	22.93	22.87
5	QPSK	25	0	23.75	23.69	23.66	22.96	22.85	22.85
5	16QAM	1	0	23.82	23.78	23.84	22.99	22.95	22.94
5	16QAM	1	12	23.95	24.00	23.93	23.08	23.05	23.07
5	16QAM	1	24	23.90	23.96	23.84	23.18	23.21	23.10
5	16QAM	12	0	22.70	22.71	22.71	22.42	22.38	22.36
5	16QAM	12	7	22.81	22.85	22.70	22.40	22.48	22.40
5	16QAM	12	13	22.76	22.78	22.73	22.36	22.47	22.37
5	16QAM	25	0	22.73	22.72	22.64	22.39	22.40	22.42
5	64QAM	1	0	22.79	22.76	22.82	22.51	22.48	22.44
5	64QAM	1	12	22.89	22.92	22.91	22.46	22.50	22.56
5	64QAM	1	24	22.89	22.90	22.82	22.64	22.66	22.53
5	64QAM	12	0	21.72	21.73	21.75	21.45	21.44	21.38
5	64QAM	12	7	21.88	21.87	21.75	21.47	21.44	21.49
5	64QAM	12	13	21.83	21.84	21.75	21.44	21.41	21.41
5	64QAM	25	0	21.75	21.68	21.67	21.41	21.46	21.45
Channel				23025	23095	23165	23025	23095	23165
Frequency (MHz)				700.5	707.5	714.5	700.5	707.5	714.5
3	QPSK	1	0	24.52	24.52	24.47	22.64	22.77	22.68
3	QPSK	1	8	24.67	24.66	24.67	22.76	22.72	22.79



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3	QPSK	1	14	24.63	24.59	24.59	22.81	22.81	22.82
3	QPSK	8	0	23.66	23.63	23.60	22.93	22.89	22.85
3	QPSK	8	4	23.76	23.75	23.66	22.90	22.86	22.86
3	QPSK	8	7	23.73	23.71	23.68	22.87	22.92	22.94
3	QPSK	15	0	23.75	23.67	23.61	22.87	22.92	22.85
3	16QAM	1	0	23.82	23.84	23.82	22.96	22.95	22.94
3	16QAM	1	8	24.00	23.97	23.89	23.10	23.04	23.14
3	16QAM	1	14	23.88	23.89	23.82	23.12	23.13	23.13
3	16QAM	8	0	22.76	22.72	22.69	22.43	22.38	22.38
3	16QAM	8	4	22.84	22.81	22.75	22.49	22.41	22.42
3	16QAM	8	7	22.80	22.78	22.71	22.46	22.47	22.42
3	16QAM	15	0	22.74	22.71	22.65	22.43	22.38	22.46
3	64QAM	1	0	22.82	22.76	22.77	22.50	22.50	22.52
3	64QAM	1	8	22.98	22.97	22.92	22.46	22.53	22.52
3	64QAM	1	14	22.85	22.88	22.81	22.65	22.72	22.48
3	64QAM	8	0	21.72	21.74	21.72	21.41	21.42	21.36
3	64QAM	8	4	21.82	21.84	21.71	21.44	21.46	21.43
3	64QAM	8	7	21.78	21.80	21.71	21.50	21.40	21.46
3	64QAM	15	0	21.74	21.68	21.66	21.47	21.40	21.41
Channel				23017	23095	23173	23017	23095	23173
Frequency (MHz)				699.7	707.5	715.3	699.7	707.5	715.3
1.4	QPSK	1	0	24.50	24.51	24.47	22.74	22.71	22.73
1.4	QPSK	1	3	24.66	24.64	24.60	22.89	22.85	22.87
1.4	QPSK	1	5	24.56	24.55	24.55	22.79	22.77	22.79
1.4	QPSK	3	0	24.60	24.53	24.52	22.77	22.78	22.75
1.4	QPSK	3	1	24.63	24.60	24.54	22.91	22.80	22.81
1.4	QPSK	3	3	24.63	24.58	24.57	22.86	22.83	22.84
1.4	QPSK	6	0	23.66	23.60	23.59	22.91	22.90	22.85
1.4	16QAM	1	0	23.83	23.82	23.73	23.06	23.04	23.00
1.4	16QAM	1	3	23.93	23.91	23.86	23.20	23.16	23.11
1.4	16QAM	1	5	23.85	23.86	23.75	23.10	23.10	23.04
1.4	16QAM	3	0	23.66	23.63	23.52	22.84	22.82	22.77
1.4	16QAM	3	1	23.72	23.64	23.57	22.94	22.87	22.85
1.4	16QAM	3	3	23.66	23.64	23.58	22.90	22.87	22.83
1.4	16QAM	6	0	22.75	22.69	22.65	22.53	22.53	22.41
1.4	64QAM	1	0	22.76	22.76	22.69	22.55	22.50	22.48
1.4	64QAM	1	3	22.91	22.86	22.79	22.63	22.63	22.58
1.4	64QAM	1	5	22.80	22.81	22.73	22.56	22.57	22.53
1.4	64QAM	3	0	22.82	22.74	22.66	22.55	22.46	22.50
1.4	64QAM	3	1	22.89	22.81	22.69	22.62	22.52	22.56
1.4	64QAM	3	3	22.82	22.80	22.74	22.56	22.55	22.53
1.4	64QAM	6	0	21.68	21.60	21.57	21.48	21.44	21.37



Power Selection				Near body					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			25		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23060	23095	23130	23060	23095	23130
Frequency (MHz)				704	707.5	711	704	707.5	711
10	QPSK	1	0	24.51	24.52	24.68	24.51	24.52	24.68
10	QPSK	1	25	24.60	24.58	24.55	24.60	24.58	24.55
10	QPSK	1	49	24.64	24.56	24.58	24.64	24.56	24.58
10	QPSK	25	0	23.72	23.69	23.73	23.72	23.69	23.73
10	QPSK	25	12	23.72	23.71	23.69	23.72	23.71	23.69
10	QPSK	25	25	23.71	23.70	23.69	23.71	23.70	23.69
10	QPSK	50	0	23.71	23.70	23.72	23.71	23.70	23.72
10	16QAM	1	0	23.89	23.87	23.94	23.89	23.87	23.94
10	16QAM	1	25	23.90	23.87	23.87	23.90	23.87	23.87
10	16QAM	1	49	23.98	23.95	23.82	23.98	23.95	23.82
10	16QAM	25	0	22.71	22.72	22.70	22.71	22.72	22.70
10	16QAM	25	12	22.74	22.74	22.74	22.74	22.74	22.74
10	16QAM	25	25	22.73	22.75	22.69	22.73	22.75	22.69
10	16QAM	50	0	22.75	22.73	22.73	22.75	22.73	22.73
10	64QAM	1	0	22.78	22.75	22.88	22.78	22.75	22.88
10	64QAM	1	25	22.85	22.86	22.84	22.85	22.86	22.84
10	64QAM	1	49	22.87	22.85	22.81	22.87	22.85	22.81
10	64QAM	25	0	21.72	21.74	21.71	21.72	21.74	21.71
10	64QAM	25	12	21.77	21.77	21.74	21.77	21.77	21.74
10	64QAM	25	25	21.76	21.76	21.71	21.76	21.76	21.71
10	64QAM	50	0	21.74	21.76	21.76	21.74	21.76	21.76
Channel				23035	23095	23155	23035	23095	23155
Frequency (MHz)				701.5	707.5	713.5	701.5	707.5	713.5
5	QPSK	1	0	24.50	24.52	24.52	24.50	24.52	24.52
5	QPSK	1	12	24.65	24.64	24.62	24.65	24.64	24.62
5	QPSK	1	24	24.66	24.65	24.62	24.66	24.65	24.62
5	QPSK	12	0	23.64	23.64	23.63	23.64	23.64	23.63
5	QPSK	12	7	23.79	23.77	23.68	23.79	23.77	23.68
5	QPSK	12	13	23.74	23.76	23.74	23.74	23.76	23.74
5	QPSK	25	0	23.75	23.69	23.66	23.75	23.69	23.66
5	16QAM	1	0	23.82	23.78	23.84	23.82	23.78	23.84
5	16QAM	1	12	23.95	24.00	23.93	23.95	24.00	23.93
5	16QAM	1	24	23.90	23.96	23.84	23.90	23.96	23.84
5	16QAM	12	0	22.70	22.71	22.71	22.70	22.71	22.71
5	16QAM	12	7	22.81	22.85	22.70	22.81	22.85	22.70
5	16QAM	12	13	22.76	22.78	22.73	22.76	22.78	22.73
5	16QAM	25	0	22.73	22.72	22.64	22.73	22.72	22.64
5	64QAM	1	0	22.79	22.76	22.82	22.79	22.76	22.82
5	64QAM	1	12	22.89	22.92	22.91	22.89	22.92	22.91
5	64QAM	1	24	22.89	22.90	22.82	22.89	22.90	22.82
5	64QAM	12	0	21.72	21.73	21.75	21.72	21.73	21.75
5	64QAM	12	7	21.88	21.87	21.75	21.88	21.87	21.75
5	64QAM	12	13	21.83	21.84	21.75	21.83	21.84	21.75
5	64QAM	25	0	21.75	21.68	21.67	21.75	21.68	21.67
Channel				23025	23095	23165	23025	23095	23165
Frequency (MHz)				700.5	707.5	714.5	700.5	707.5	714.5
3	QPSK	1	0	24.52	24.52	24.47	24.52	24.52	24.47
3	QPSK	1	8	24.67	24.66	24.67	24.67	24.66	24.67
3	QPSK	1	14	24.63	24.59	24.59	24.63	24.59	24.59



3	QPSK	8	0	23.66	23.63	23.60	23.66	23.63	23.60
3	QPSK	8	4	23.76	23.75	23.66	23.76	23.75	23.66
3	QPSK	8	7	23.73	23.71	23.68	23.73	23.71	23.68
3	QPSK	15	0	23.75	23.67	23.61	23.75	23.67	23.61
3	16QAM	1	0	23.82	23.84	23.82	23.82	23.84	23.82
3	16QAM	1	8	24.00	23.97	23.89	24.00	23.97	23.89
3	16QAM	1	14	23.88	23.89	23.82	23.88	23.89	23.82
3	16QAM	8	0	22.76	22.72	22.69	22.76	22.72	22.69
3	16QAM	8	4	22.84	22.81	22.75	22.84	22.81	22.75
3	16QAM	8	7	22.80	22.78	22.71	22.80	22.78	22.71
3	16QAM	15	0	22.74	22.71	22.65	22.74	22.71	22.65
3	64QAM	1	0	22.82	22.76	22.77	22.82	22.76	22.77
3	64QAM	1	8	22.98	22.97	22.92	22.98	22.97	22.92
3	64QAM	1	14	22.85	22.88	22.81	22.85	22.88	22.81
3	64QAM	8	0	21.72	21.74	21.72	21.72	21.74	21.72
3	64QAM	8	4	21.82	21.84	21.71	21.82	21.84	21.71
3	64QAM	8	7	21.78	21.80	21.71	21.78	21.80	21.71
3	64QAM	15	0	21.74	21.68	21.66	21.74	21.68	21.66
Channel				23017	23095	23173	23017	23095	23173
Frequency (MHz)				699.7	707.5	715.3	699.7	707.5	715.3
1.4	QPSK	1	0	24.50	24.51	24.47	24.50	24.51	24.47
1.4	QPSK	1	3	24.66	24.64	24.60	24.66	24.64	24.60
1.4	QPSK	1	5	24.56	24.55	24.55	24.56	24.55	24.55
1.4	QPSK	3	0	24.60	24.53	24.52	24.60	24.53	24.52
1.4	QPSK	3	1	24.63	24.60	24.54	24.63	24.60	24.54
1.4	QPSK	3	3	24.63	24.58	24.57	24.63	24.58	24.57
1.4	QPSK	6	0	23.66	23.60	23.59	23.66	23.60	23.59
1.4	16QAM	1	0	23.83	23.82	23.73	23.83	23.82	23.73
1.4	16QAM	1	3	23.93	23.91	23.86	23.93	23.91	23.86
1.4	16QAM	1	5	23.85	23.86	23.75	23.85	23.86	23.75
1.4	16QAM	3	0	23.66	23.63	23.52	23.66	23.63	23.52
1.4	16QAM	3	1	23.72	23.64	23.57	23.72	23.64	23.57
1.4	16QAM	3	3	23.66	23.64	23.58	23.66	23.64	23.58
1.4	16QAM	6	0	22.75	22.69	22.65	22.75	22.69	22.65
1.4	64QAM	1	0	22.76	22.76	22.69	22.76	22.76	22.69
1.4	64QAM	1	3	22.91	22.86	22.79	22.91	22.86	22.79
1.4	64QAM	1	5	22.80	22.81	22.73	22.80	22.81	22.73
1.4	64QAM	3	0	22.82	22.74	22.66	22.82	22.74	22.66
1.4	64QAM	3	1	22.89	22.81	22.69	22.89	22.81	22.69
1.4	64QAM	3	3	22.82	22.80	22.74	22.82	22.80	22.74
1.4	64QAM	6	0	21.68	21.60	21.57	21.68	21.60	21.57



**<LTE Band 13>**

Power Selection				Head					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			23.5		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23230			23230		
Frequency (MHz)				782			782		
10	QPSK	1	0		24.53			22.31	
10	QPSK	1	25		24.50			22.33	
10	QPSK	1	49		24.47			22.35	
10	QPSK	25	0		23.67			22.43	
10	QPSK	25	12		23.66			22.53	
10	QPSK	25	25		23.64			22.49	
10	QPSK	50	0		23.66			22.51	
10	16QAM	1	0		23.71			22.56	
10	16QAM	1	25		23.76			22.70	
10	16QAM	1	49		23.64			22.59	
10	16QAM	25	0		22.63			22.41	
10	16QAM	25	12		22.64			22.51	
10	16QAM	25	25		22.63			22.50	
10	16QAM	50	0		22.64			22.50	
10	64QAM	1	0		22.21			22.39	
10	64QAM	1	25		22.71			22.65	
10	64QAM	1	49		22.62			22.53	
10	64QAM	25	0		21.64			21.40	
10	64QAM	25	12		21.68			21.51	
10	64QAM	25	25		21.63			21.49	
10	64QAM	50	0		21.66			21.49	
Channel				23205	23230	23255	23205	23230	23255
Frequency (MHz)				779.5	782	784.5	779.5	782	784.5
5	QPSK	1	0	24.46	24.44	24.45	22.13	22.21	22.24
5	QPSK	1	12	24.52	24.50	24.51	22.22	22.19	22.20
5	QPSK	1	24	24.52	24.52	24.49	22.31	22.12	22.16
5	QPSK	12	0	23.62	23.59	23.60	22.25	22.31	22.25
5	QPSK	12	7	23.67	23.68	23.60	22.22	22.28	22.27
5	QPSK	12	13	23.64	23.66	23.63	22.25	22.25	22.22
5	QPSK	25	0	23.70	23.60	23.57	22.33	22.34	22.28
5	16QAM	1	0	23.69	23.67	23.69	22.40	22.58	22.49
5	16QAM	1	12	23.73	23.76	23.71	22.39	22.53	22.42
5	16QAM	1	24	23.74	23.75	23.66	22.54	22.48	22.39
5	16QAM	12	0	22.59	22.61	22.58	22.27	22.31	22.27
5	16QAM	12	7	22.66	22.67	22.59	22.34	22.40	22.30
5	16QAM	12	13	22.67	22.65	22.60	22.21	22.26	22.27
5	16QAM	25	0	22.68	22.61	22.55	22.34	22.27	22.25
5	64QAM	1	0	21.93	22.64	22.64	22.33	22.50	22.44
5	64QAM	1	12	22.70	22.75	22.69	22.46	22.38	22.47
5	64QAM	1	24	22.70	22.73	22.65	22.51	22.40	22.39
5	64QAM	12	0	21.52	21.65	21.64	21.27	21.30	21.37
5	64QAM	12	7	21.70	21.70	21.65	21.32	21.29	21.40
5	64QAM	12	13	21.68	21.68	21.65	21.31	21.34	21.24
5	64QAM	25	0	21.69	21.59	21.59	21.35	21.35	21.28



Power Selection				Near body					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			25		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23230			23230		
Frequency (MHz)				782			782		
10	QPSK	1	0		24.53			24.53	
10	QPSK	1	25		24.50			24.50	
10	QPSK	1	49		24.47			24.47	
10	QPSK	25	0		23.67			23.67	
10	QPSK	25	12		23.66			23.66	
10	QPSK	25	25		23.64			23.64	
10	QPSK	50	0		23.66			23.66	
10	16QAM	1	0		23.71			23.71	
10	16QAM	1	25		23.76			23.76	
10	16QAM	1	49		23.64			23.64	
10	16QAM	25	0		22.63			22.63	
10	16QAM	25	12		22.64			22.64	
10	16QAM	25	25		22.63			22.63	
10	16QAM	50	0		22.64			22.64	
10	64QAM	1	0		22.21			22.21	
10	64QAM	1	25		22.71			22.71	
10	64QAM	1	49		22.62			22.62	
10	64QAM	25	0		21.64			21.64	
10	64QAM	25	12		21.68			21.68	
10	64QAM	25	25		21.63			21.63	
10	64QAM	50	0		21.66			21.66	
Channel				23205	23230	23255	23205	23230	23255
Frequency (MHz)				779.5	782	784.5	779.5	782	784.5
5	QPSK	1	0	24.46	24.44	24.45	24.46	24.44	24.45
5	QPSK	1	12	24.52	24.50	24.51	24.52	24.50	24.51
5	QPSK	1	24	24.52	24.52	24.49	24.52	24.52	24.49
5	QPSK	12	0	23.62	23.59	23.60	23.62	23.59	23.60
5	QPSK	12	7	23.67	23.68	23.60	23.67	23.68	23.60
5	QPSK	12	13	23.64	23.66	23.63	23.64	23.66	23.63
5	QPSK	25	0	23.70	23.60	23.57	23.70	23.60	23.57
5	16QAM	1	0	23.69	23.67	23.69	23.69	23.67	23.69
5	16QAM	1	12	23.73	23.76	23.71	23.73	23.76	23.71
5	16QAM	1	24	23.74	23.75	23.66	23.74	23.75	23.66
5	16QAM	12	0	22.59	22.61	22.58	22.59	22.61	22.58
5	16QAM	12	7	22.66	22.67	22.59	22.66	22.67	22.59
5	16QAM	12	13	22.67	22.65	22.60	22.67	22.65	22.60
5	16QAM	25	0	22.68	22.61	22.55	22.68	22.61	22.55
5	64QAM	1	0	21.93	22.64	22.64	21.93	22.64	22.64
5	64QAM	1	12	22.70	22.75	22.69	22.70	22.75	22.69
5	64QAM	1	24	22.70	22.73	22.65	22.70	22.73	22.65
5	64QAM	12	0	21.52	21.65	21.64	21.52	21.65	21.64
5	64QAM	12	7	21.70	21.70	21.65	21.70	21.70	21.65
5	64QAM	12	13	21.68	21.68	21.65	21.68	21.68	21.65
5	64QAM	25	0	21.69	21.59	21.59	21.69	21.59	21.59





**<LTE Band 17>**

SAR for LTE B17 is covered by LTE B12 due to overlapping frequency range, the same maximum tune-up limit and the same channel bandwidth

**<LTE Band 25>**

Power Selection				Head					
Transmit Antenna				Ant 0b			Ant 1		
Max. Power				24.75			20		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26140	26340	26590	26140	26340	26590
Frequency (MHz)				1860	1880	1905	1860	1880	1905
20	QPSK	1	0	24.26	24.36	24.23	18.88	19.03	19.02
20	QPSK	1	49	23.92	24.16	24.16	18.77	18.87	18.84
20	QPSK	1	99	24.01	24.02	24.07	18.77	18.88	18.87
20	QPSK	50	0	23.11	23.24	23.25	18.88	19.00	18.92
20	QPSK	50	24	23.18	23.33	23.31	18.94	19.07	19.06
20	QPSK	50	50	23.24	23.28	23.26	18.92	19.03	19.01
20	QPSK	100	0	23.16	23.32	23.29	18.91	19.02	18.98
20	16QAM	1	0	23.36	23.30	23.40	19.15	19.27	19.19
20	16QAM	1	49	23.65	23.33	23.62	19.02	19.13	19.13
20	16QAM	1	99	23.33	23.11	23.34	19.02	19.10	19.15
20	16QAM	50	0	22.22	22.27	22.20	18.90	18.99	18.95
20	16QAM	50	24	22.18	22.35	22.28	18.94	19.07	18.99
20	16QAM	50	50	22.22	22.33	22.39	18.93	19.04	19.04
20	16QAM	100	0	22.22	22.23	22.28	18.89	19.02	18.99
20	64QAM	1	0	22.62	22.15	22.40	19.13	19.26	19.13
20	64QAM	1	49	22.43	22.47	22.57	19.03	19.14	19.10
20	64QAM	1	99	22.40	22.59	22.03	19.05	19.10	19.09
20	64QAM	50	0	21.20	21.39	21.26	18.95	19.05	18.97
20	64QAM	50	24	21.30	21.30	21.37	18.99	19.08	19.03
20	64QAM	50	50	21.21	21.31	21.34	18.96	19.07	19.02
20	64QAM	100	0	21.25	21.29	21.32	18.94	19.05	19.03
Channel				26115	26340	26615	26115	26340	26615
Frequency (MHz)				1857.5	1880	1907.5	1857.5	1880	1907.5
15	QPSK	1	0	24.06	24.34	24.31	18.85	18.95	18.93
15	QPSK	1	37	24.03	24.20	24.22	18.69	18.77	18.84
15	QPSK	1	74	24.08	24.13	24.10	18.72	18.86	18.82
15	QPSK	36	0	23.22	23.29	23.16	18.78	18.99	18.92
15	QPSK	36	20	23.26	23.33	23.29	18.85	19.06	18.99
15	QPSK	36	39	23.22	23.32	23.26	18.83	18.98	18.92
15	QPSK	75	0	23.21	23.32	23.24	18.89	18.92	18.96
15	16QAM	1	0	23.34	23.38	23.43	19.14	19.23	19.16
15	16QAM	1	37	23.43	23.38	23.58	18.97	19.09	19.12
15	16QAM	1	74	23.63	23.49	23.66	18.95	19.03	19.10
15	16QAM	36	0	22.20	22.24	22.26	18.80	18.97	18.87
15	16QAM	36	20	22.16	22.33	22.34	18.84	19.01	18.99
15	16QAM	36	39	22.19	22.31	22.28	18.84	18.96	19.04
15	16QAM	75	0	22.25	22.31	22.28	18.81	18.97	18.91
15	64QAM	1	0	22.16	22.40	22.58	19.12	19.21	19.12
15	64QAM	1	37	22.07	22.51	21.90	18.99	19.11	19.02
15	64QAM	1	74	22.45	22.36	21.90	18.96	19.05	19.08
15	64QAM	36	0	21.22	21.25	21.34	18.92	19.05	18.92
15	64QAM	36	20	21.29	21.30	21.35	18.99	19.01	19.02
15	64QAM	36	39	21.28	21.36	21.38	18.94	19.05	18.92
15	64QAM	75	0	21.20	21.34	21.23	18.93	19.04	18.99



Channel				26090	26340	26640	26090	26340	26640
Frequency (MHz)				1855	1880	1910	1855	1880	1910
10	QPSK	1	0	24.05	24.06	23.90	18.88	18.92	19.01
10	QPSK	1	25	24.12	24.11	23.90	18.76	18.84	18.74
10	QPSK	1	49	23.92	24.13	24.00	18.70	18.86	18.79
10	QPSK	25	0	23.07	23.10	23.07	18.86	18.91	18.82
10	QPSK	25	12	22.99	23.20	23.19	18.89	19.05	18.99
10	QPSK	25	25	23.00	23.14	23.06	18.87	19.00	18.99
10	QPSK	50	0	22.96	23.10	23.10	18.89	18.99	18.96
10	16QAM	1	0	23.42	22.97	23.16	19.11	19.23	19.15
10	16QAM	1	25	22.78	23.50	23.43	18.93	19.09	19.10
10	16QAM	1	49	23.10	23.12	23.21	18.95	19.05	19.12
10	16QAM	25	0	22.08	22.03	22.19	18.82	18.97	18.95
10	16QAM	25	12	22.01	22.16	22.17	18.93	19.05	18.96
10	16QAM	25	25	22.02	22.17	22.05	18.83	18.97	18.97
10	16QAM	50	0	22.05	22.13	22.22	18.82	18.94	18.90
10	64QAM	1	0	22.46	22.32	22.25	19.08	19.20	19.11
10	64QAM	1	25	21.90	22.18	22.31	18.97	19.06	19.02
10	64QAM	1	49	22.30	21.98	21.77	18.99	19.01	19.08
10	64QAM	25	0	21.08	21.12	21.16	18.87	18.96	18.92
10	64QAM	25	12	21.06	21.13	21.10	18.94	18.99	19.02
10	64QAM	25	25	21.01	21.15	21.06	18.95	19.01	18.94
10	64QAM	50	0	21.04	21.08	21.19	18.89	18.98	18.94
Channel				26065	26340	26665	26065	26340	26665
Frequency (MHz)				1852.5	1880	1912.5	1852.5	1880	1912.5
5	QPSK	1	0	24.00	23.96	24.12	18.87	18.93	19.01
5	QPSK	1	12	24.00	24.04	24.11	18.71	18.81	18.81
5	QPSK	1	24	24.04	24.19	24.07	18.72	18.78	18.86
5	QPSK	12	0	23.08	23.09	23.20	18.82	18.93	18.91
5	QPSK	12	7	23.09	23.18	23.16	18.90	19.07	18.99
5	QPSK	12	13	23.13	23.17	23.21	18.92	19.03	18.98
5	QPSK	25	0	23.15	23.23	23.05	18.84	19.01	18.96
5	16QAM	1	0	23.49	23.37	23.20	19.14	19.22	19.12
5	16QAM	1	12	23.17	23.38	23.24	19.00	19.07	19.13
5	16QAM	1	24	22.98	23.66	23.28	19.00	19.02	19.15
5	16QAM	12	0	22.04	22.07	22.09	18.80	18.97	18.92
5	16QAM	12	7	22.16	22.22	22.14	18.88	19.04	18.92
5	16QAM	12	13	22.11	22.22	22.20	18.93	18.96	19.00
5	16QAM	25	0	22.05	22.16	22.10	18.88	18.92	18.94
5	64QAM	1	0	21.89	22.04	22.27	19.04	19.23	19.03
5	64QAM	1	12	22.22	22.50	22.18	18.95	19.11	19.06
5	64QAM	1	24	22.19	22.56	21.47	19.04	19.04	19.02
5	64QAM	12	0	21.13	21.13	21.19	18.95	18.95	18.88
5	64QAM	12	7	21.21	21.26	21.29	18.96	19.00	18.95
5	64QAM	12	13	21.14	21.30	21.26	18.95	18.97	19.00
5	64QAM	25	0	21.14	21.21	21.14	18.91	19.05	18.95
Channel				26055	26340	26675	26055	26340	26675
Frequency (MHz)				1851.5	1880	1913.5	1851.5	1880	1913.5
3	QPSK	1	0	23.89	24.02	23.89	18.78	18.93	18.98
3	QPSK	1	8	24.11	24.26	24.16	18.73	18.81	18.81
3	QPSK	1	14	23.98	24.01	24.10	18.72	18.85	18.79
3	QPSK	8	0	23.03	23.02	23.06	18.87	18.96	18.83
3	QPSK	8	4	23.09	23.17	23.16	18.89	19.00	18.98
3	QPSK	8	7	23.06	23.15	23.17	18.83	19.00	18.91
3	QPSK	15	0	23.09	23.15	23.16	18.89	19.02	18.89
3	16QAM	1	0	23.12	23.05	23.05	19.09	19.21	19.19



3	16QAM	1	8	23.58	23.52	23.68	18.99	19.11	19.11
3	16QAM	1	14	22.95	23.52	23.53	18.99	19.09	19.12
3	16QAM	8	0	22.13	22.11	22.14	18.86	18.99	18.93
3	16QAM	8	4	22.14	22.21	22.22	18.94	19.05	18.92
3	16QAM	8	7	22.21	22.17	22.16	18.90	19.02	19.04
3	16QAM	15	0	22.14	22.17	22.14	18.81	19.01	18.90
3	64QAM	1	0	21.80	22.19	22.28	19.07	19.19	19.11
3	64QAM	1	8	22.44	22.60	22.15	18.93	19.08	19.03
3	64QAM	1	14	22.41	22.31	21.85	19.05	19.02	19.04
3	64QAM	8	0	21.26	21.14	21.08	18.88	19.01	18.87
3	64QAM	8	4	21.22	21.26	21.17	18.92	18.98	18.98
3	64QAM	8	7	21.24	21.24	21.24	18.89	19.06	18.94
3	64QAM	15	0	21.14	21.18	21.22	18.89	19.01	19.03
Channel				26047	26340	26683	26047	26340	26683
Frequency (MHz)				1850.7	1880	1914.3	1850.7	1880	1914.3
1.4	QPSK	1	0	23.91	23.91	23.91	18.78	18.99	18.98
1.4	QPSK	1	3	23.95	24.08	24.15	18.75	18.77	18.84
1.4	QPSK	1	5	23.88	24.06	24.06	18.76	18.87	18.87
1.4	QPSK	3	0	23.89	24.03	23.98	18.84	18.96	18.87
1.4	QPSK	3	1	24.04	24.14	24.00	18.91	18.98	18.98
1.4	QPSK	3	3	24.02	24.06	24.06	18.85	19.01	19.01
1.4	QPSK	6	0	23.01	23.20	23.09	18.85	18.92	18.96
1.4	16QAM	1	0	23.22	23.06	23.42	19.11	19.20	19.18
1.4	16QAM	1	3	23.13	23.53	23.19	19.01	19.03	19.13
1.4	16QAM	1	5	23.23	23.51	23.14	18.96	19.01	19.08
1.4	16QAM	3	0	22.95	23.10	23.06	18.82	18.95	18.89
1.4	16QAM	3	1	23.00	23.21	22.91	18.94	19.07	18.91
1.4	16QAM	3	3	22.84	23.13	22.94	18.83	19.04	19.02
1.4	16QAM	6	0	21.98	22.17	22.08	18.84	18.98	18.98
1.4	64QAM	1	0	22.08	22.03	21.49	19.10	19.24	19.08
1.4	64QAM	1	3	22.28	22.17	21.40	18.94	19.06	19.10
1.4	64QAM	1	5	21.97	22.36	21.68	19.05	19.04	19.02
1.4	64QAM	3	0	22.26	22.21	21.85	18.91	19.02	18.89
1.4	64QAM	3	1	22.32	22.12	21.89	18.98	19.03	19.00
1.4	64QAM	3	3	22.14	21.96	21.70	18.96	19.04	18.97
1.4	64QAM	6	0	21.05	21.14	21.12	18.91	19.04	18.95



Power Selection				Near body					
Transmit Antenna				Ant 0b			Ant 1		
Max. Power				24.75			24.75		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26140	26340	26590	26140	26340	26590
Frequency (MHz)				1860	1880	1905	1860	1880	1905
20	QPSK	1	0	24.26	24.36	24.23	24.26	24.36	24.23
20	QPSK	1	49	23.92	24.16	24.16	23.92	24.16	24.16
20	QPSK	1	99	24.01	24.02	24.07	24.01	24.02	24.07
20	QPSK	50	0	23.11	23.24	23.25	23.11	23.24	23.25
20	QPSK	50	24	23.18	23.33	23.31	23.18	23.33	23.31
20	QPSK	50	50	23.24	23.28	23.26	23.24	23.28	23.26
20	QPSK	100	0	23.16	23.32	23.29	23.16	23.32	23.29
20	16QAM	1	0	23.36	23.30	23.40	23.36	23.30	23.40
20	16QAM	1	49	23.65	23.33	23.62	23.65	23.33	23.62
20	16QAM	1	99	23.33	23.11	23.34	23.33	23.11	23.34
20	16QAM	50	0	22.22	22.27	22.20	22.22	22.27	22.20
20	16QAM	50	24	22.18	22.35	22.28	22.18	22.35	22.28
20	16QAM	50	50	22.22	22.33	22.39	22.22	22.33	22.39
20	16QAM	100	0	22.22	22.23	22.28	22.22	22.23	22.28
20	64QAM	1	0	22.62	22.15	22.40	22.62	22.15	22.40
20	64QAM	1	49	22.43	22.47	22.57	22.43	22.47	22.57
20	64QAM	1	99	22.40	22.59	22.03	22.40	22.59	22.03
20	64QAM	50	0	21.20	21.39	21.26	21.20	21.39	21.26
20	64QAM	50	24	21.30	21.30	21.37	21.30	21.30	21.37
20	64QAM	50	50	21.21	21.31	21.34	21.21	21.31	21.34
20	64QAM	100	0	21.25	21.29	21.32	21.25	21.29	21.32
Channel				26115	26340	26615	26115	26340	26615
Frequency (MHz)				1857.5	1880	1907.5	1857.5	1880	1907.5
15	QPSK	1	0	24.06	24.34	24.31	24.06	24.34	24.31
15	QPSK	1	37	24.03	24.20	24.22	24.03	24.20	24.22
15	QPSK	1	74	24.08	24.13	24.10	24.08	24.13	24.10
15	QPSK	36	0	23.22	23.29	23.16	23.22	23.29	23.16
15	QPSK	36	20	23.26	23.33	23.29	23.26	23.33	23.29
15	QPSK	36	39	23.22	23.32	23.26	23.22	23.32	23.26
15	QPSK	75	0	23.21	23.32	23.24	23.21	23.32	23.24
15	16QAM	1	0	23.34	23.38	23.43	23.34	23.38	23.43
15	16QAM	1	37	23.43	23.38	23.58	23.43	23.38	23.58
15	16QAM	1	74	23.63	23.49	23.66	23.63	23.49	23.66
15	16QAM	36	0	22.20	22.24	22.26	22.20	22.24	22.26
15	16QAM	36	20	22.16	22.33	22.34	22.16	22.33	22.34
15	16QAM	36	39	22.19	22.31	22.28	22.19	22.31	22.28
15	16QAM	75	0	22.25	22.31	22.28	22.25	22.31	22.28
15	64QAM	1	0	22.16	22.40	22.58	22.16	22.40	22.58
15	64QAM	1	37	22.07	22.51	21.90	22.07	22.51	21.90
15	64QAM	1	74	22.45	22.36	21.90	22.45	22.36	21.90
15	64QAM	36	0	21.22	21.25	21.34	21.22	21.25	21.34
15	64QAM	36	20	21.29	21.30	21.35	21.29	21.30	21.35
15	64QAM	36	39	21.28	21.36	21.38	21.28	21.36	21.38
15	64QAM	75	0	21.20	21.34	21.23	21.20	21.34	21.23
Channel				26090	26340	26640	26090	26340	26640
Frequency (MHz)				1855	1880	1910	1855	1880	1910
10	QPSK	1	0	24.05	24.06	23.90	24.05	24.06	23.90
10	QPSK	1	25	24.12	24.11	23.90	24.12	24.11	23.90
10	QPSK	1	49	23.92	24.13	24.00	23.92	24.13	24.00



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10	QPSK	25	0	23.07	23.10	23.07	23.07	23.10	23.07
10	QPSK	25	12	22.99	23.20	23.19	22.99	23.20	23.19
10	QPSK	25	25	23.00	23.14	23.06	23.00	23.14	23.06
10	QPSK	50	0	22.96	23.10	23.10	22.96	23.10	23.10
10	16QAM	1	0	23.42	22.97	23.16	23.42	22.97	23.16
10	16QAM	1	25	22.78	23.50	23.43	22.78	23.50	23.43
10	16QAM	1	49	23.10	23.12	23.21	23.10	23.12	23.21
10	16QAM	25	0	22.08	22.03	22.19	22.08	22.03	22.19
10	16QAM	25	12	22.01	22.16	22.17	22.01	22.16	22.17
10	16QAM	25	25	22.02	22.17	22.05	22.02	22.17	22.05
10	16QAM	50	0	22.05	22.13	22.22	22.05	22.13	22.22
10	64QAM	1	0	22.46	22.32	22.25	22.46	22.32	22.25
10	64QAM	1	25	21.90	22.18	22.31	21.90	22.18	22.31
10	64QAM	1	49	22.30	21.98	21.77	22.30	21.98	21.77
10	64QAM	25	0	21.08	21.12	21.16	21.08	21.12	21.16
10	64QAM	25	12	21.06	21.13	21.10	21.06	21.13	21.10
10	64QAM	25	25	21.01	21.15	21.06	21.01	21.15	21.06
10	64QAM	50	0	21.04	21.08	21.19	21.04	21.08	21.19
Channel				26065	26340	26665	26065	26340	26665
Frequency (MHz)				1852.5	1880	1912.5	1852.5	1880	1912.5
5	QPSK	1	0	24.00	23.96	24.12	24.00	23.96	24.12
5	QPSK	1	12	24.00	24.04	24.11	24.00	24.04	24.11
5	QPSK	1	24	24.04	24.19	24.07	24.04	24.19	24.07
5	QPSK	12	0	23.08	23.09	23.20	23.08	23.09	23.20
5	QPSK	12	7	23.09	23.18	23.16	23.09	23.18	23.16
5	QPSK	12	13	23.13	23.17	23.21	23.13	23.17	23.21
5	QPSK	25	0	23.15	23.23	23.05	23.15	23.23	23.05
5	16QAM	1	0	23.49	23.37	23.20	23.49	23.37	23.20
5	16QAM	1	12	23.17	23.38	23.24	23.17	23.38	23.24
5	16QAM	1	24	22.98	23.66	23.28	22.98	23.66	23.28
5	16QAM	12	0	22.04	22.07	22.09	22.04	22.07	22.09
5	16QAM	12	7	22.16	22.22	22.14	22.16	22.22	22.14
5	16QAM	12	13	22.11	22.22	22.20	22.11	22.22	22.20
5	16QAM	25	0	22.05	22.16	22.10	22.05	22.16	22.10
5	64QAM	1	0	21.89	22.04	22.27	21.89	22.04	22.27
5	64QAM	1	12	22.22	22.50	22.18	22.22	22.50	22.18
5	64QAM	1	24	22.19	22.56	21.47	22.19	22.56	21.47
5	64QAM	12	0	21.13	21.13	21.19	21.13	21.13	21.19
5	64QAM	12	7	21.21	21.26	21.29	21.21	21.26	21.29
5	64QAM	12	13	21.14	21.30	21.26	21.14	21.30	21.26
5	64QAM	25	0	21.14	21.21	21.14	21.14	21.21	21.14
Channel				26055	26340	26675	26055	26340	26675
Frequency (MHz)				1851.5	1880	1913.5	1851.5	1880	1913.5
3	QPSK	1	0	23.89	24.02	23.89	23.89	24.02	23.89
3	QPSK	1	8	24.11	24.26	24.16	24.11	24.26	24.16
3	QPSK	1	14	23.98	24.01	24.10	23.98	24.01	24.10
3	QPSK	8	0	23.03	23.02	23.06	23.03	23.02	23.06
3	QPSK	8	4	23.09	23.17	23.16	23.09	23.17	23.16
3	QPSK	8	7	23.06	23.15	23.17	23.06	23.15	23.17
3	QPSK	15	0	23.09	23.15	23.16	23.09	23.15	23.16
3	16QAM	1	0	23.12	23.05	23.05	23.12	23.05	23.05
3	16QAM	1	8	23.58	23.52	23.68	23.58	23.52	23.68
3	16QAM	1	14	22.95	23.52	23.53	22.95	23.52	23.53
3	16QAM	8	0	22.13	22.11	22.14	22.13	22.11	22.14
3	16QAM	8	4	22.14	22.21	22.22	22.14	22.21	22.22
3	16QAM	8	7	22.21	22.17	22.16	22.21	22.17	22.16



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3	16QAM	15	0	22.14	22.17	22.14	22.14	22.17	22.14
3	64QAM	1	0	21.80	22.19	22.28	21.80	22.19	22.28
3	64QAM	1	8	22.44	22.60	22.15	22.44	22.60	22.15
3	64QAM	1	14	22.41	22.31	21.85	22.41	22.31	21.85
3	64QAM	8	0	21.26	21.14	21.08	21.26	21.14	21.08
3	64QAM	8	4	21.22	21.26	21.17	21.22	21.26	21.17
3	64QAM	8	7	21.24	21.24	21.24	21.24	21.24	21.24
3	64QAM	15	0	21.14	21.18	21.22	21.14	21.18	21.22
Channel				26047	26340	26683	26047	26340	26683
Frequency (MHz)				1850.7	1880	1914.3	1850.7	1880	1914.3
1.4	QPSK	1	0	23.91	23.91	23.91	23.91	23.91	23.91
1.4	QPSK	1	3	23.95	24.08	24.15	23.95	24.08	24.15
1.4	QPSK	1	5	23.88	24.06	24.06	23.88	24.06	24.06
1.4	QPSK	3	0	23.89	24.03	23.98	23.89	24.03	23.98
1.4	QPSK	3	1	24.04	24.14	24.00	24.04	24.14	24.00
1.4	QPSK	3	3	24.02	24.06	24.06	24.02	24.06	24.06
1.4	QPSK	6	0	23.01	23.20	23.09	23.01	23.20	23.09
1.4	16QAM	1	0	23.22	23.06	23.42	23.22	23.06	23.42
1.4	16QAM	1	3	23.13	23.53	23.19	23.13	23.53	23.19
1.4	16QAM	1	5	23.23	23.51	23.14	23.23	23.51	23.14
1.4	16QAM	3	0	22.95	23.10	23.06	22.95	23.10	23.06
1.4	16QAM	3	1	23.00	23.21	22.91	23.00	23.21	22.91
1.4	16QAM	3	3	22.84	23.13	22.94	22.84	23.13	22.94
1.4	16QAM	6	0	21.98	22.17	22.08	21.98	22.17	22.08
1.4	64QAM	1	0	22.08	22.03	21.49	22.08	22.03	21.49
1.4	64QAM	1	3	22.28	22.17	21.40	22.28	22.17	21.40
1.4	64QAM	1	5	21.97	22.36	21.68	21.97	22.36	21.68
1.4	64QAM	3	0	22.26	22.21	21.85	22.26	22.21	21.85
1.4	64QAM	3	1	22.32	22.12	21.89	22.32	22.12	21.89
1.4	64QAM	3	3	22.14	21.96	21.70	22.14	21.96	21.70
1.4	64QAM	6	0	21.05	21.14	21.12	21.05	21.14	21.12



<LTE Band 26>

Power Selection				Head					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			23.5		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26765	26865	26965	26765	26865	26965
Frequency (MHz)				821.5	831.5	841.5	821.5	831.5	841.5
15	QPSK	1	0	24.55	24.57	24.55	22.42	22.47	22.47
15	QPSK	1	37	24.51	24.52	24.48	22.39	22.41	22.48
15	QPSK	1	74	24.58	24.59	24.46	22.45	22.51	22.36
15	QPSK	36	0	23.68	23.69	23.64	22.49	22.56	22.58
15	QPSK	36	20	23.71	23.71	23.68	22.56	22.66	22.61
15	QPSK	36	39	23.67	23.66	23.62	22.48	22.54	22.54
15	QPSK	75	0	23.68	23.66	23.63	22.50	22.66	22.56
15	16QAM	1	0	23.89	23.82	23.84	22.71	22.76	22.78
15	16QAM	1	37	23.75	23.83	23.76	22.69	22.73	22.80
15	16QAM	1	74	23.91	23.85	23.72	22.77	22.79	22.69
15	16QAM	36	0	22.70	22.71	22.68	22.54	22.61	22.62
15	16QAM	36	20	22.72	22.74	22.69	22.57	22.64	22.66
15	16QAM	36	39	22.70	22.67	22.65	22.57	22.59	22.59
15	16QAM	75	0	22.69	22.70	22.65	22.56	22.61	22.62
15	64QAM	1	0	22.61	22.78	22.80	22.66	22.71	22.78
15	64QAM	1	37	22.75	22.80	22.72	22.66	22.77	22.77
15	64QAM	1	74	22.76	22.81	22.37	22.72	22.73	22.54
15	64QAM	36	0	21.54	21.75	21.70	21.59	21.68	21.67
15	64QAM	36	20	21.74	21.79	21.71	21.61	21.69	21.71
15	64QAM	36	39	21.29	21.74	21.06	21.62	21.64	21.24
15	64QAM	75	0	21.42	21.66	21.53	21.58	21.62	21.63
Channel				26740	26865	26990	26740	26865	26990
Frequency (MHz)				819	831.5	844	819	831.5	844
10	QPSK	1	0	24.44	24.57	24.50	22.33	22.36	22.46
10	QPSK	1	25	24.44	24.46	24.39	22.34	22.38	22.41
10	QPSK	1	49	24.46	24.40	24.38	22.38	22.36	22.35
10	QPSK	25	0	23.52	23.56	23.49	22.38	22.45	22.47
10	QPSK	25	12	23.57	23.59	23.53	22.45	22.50	22.52
10	QPSK	25	25	23.57	23.56	23.50	22.44	22.46	22.49
10	QPSK	50	0	23.54	23.56	23.49	22.44	22.47	22.51
10	16QAM	1	0	23.66	23.81	23.72	22.67	22.73	22.72
10	16QAM	1	25	23.70	23.77	23.70	22.60	22.68	22.71
10	16QAM	1	49	23.69	23.75	23.65	22.71	22.71	22.63
10	16QAM	25	0	22.58	22.56	22.50	22.44	22.49	22.49
10	16QAM	25	12	22.58	22.62	22.55	22.47	22.52	22.54
10	16QAM	25	25	22.55	22.59	22.51	22.45	22.50	22.50
10	16QAM	50	0	22.57	22.58	22.51	22.48	22.50	22.48
10	64QAM	1	0	22.31	22.77	22.73	22.52	22.63	22.74
10	64QAM	1	25	22.66	22.72	22.41	22.59	22.63	22.44
10	64QAM	1	49	22.62	22.68	22.29	22.63	22.63	22.30
10	64QAM	25	0	21.48	21.60	21.51	21.46	21.52	21.50
10	64QAM	25	12	21.60	21.62	21.36	21.48	21.55	21.37
10	64QAM	25	25	21.55	21.63	21.23	21.48	21.54	21.27
10	64QAM	50	0	21.48	21.58	21.45	21.46	21.51	21.47
Channel				26715	26865	27015	26715	26865	27015
Frequency (MHz)				816.5	831.5	846.5	816.5	831.5	846.5
5	QPSK	1	0	24.32	24.37	24.35	22.30	22.27	22.46



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5	QPSK	1	12	24.42	24.47	24.38	22.31	22.38	22.34
5	QPSK	1	24	24.48	24.45	24.37	22.34	22.29	22.35
5	QPSK	12	0	23.49	23.51	23.44	22.30	22.41	22.37
5	QPSK	12	7	23.61	23.60	23.53	22.36	22.48	22.50
5	QPSK	12	13	23.54	23.57	23.47	22.37	22.38	22.43
5	QPSK	25	0	23.52	23.53	23.44	22.41	22.41	22.46
5	16QAM	1	0	23.63	23.67	23.64	22.67	22.68	22.70
5	16QAM	1	12	23.77	23.77	23.71	22.60	22.65	22.70
5	16QAM	1	24	23.73	23.75	23.58	22.63	22.65	22.61
5	16QAM	12	0	22.53	22.53	22.46	22.39	22.49	22.47
5	16QAM	12	7	22.65	22.61	22.52	22.45	22.50	22.44
5	16QAM	12	13	22.61	22.59	22.51	22.35	22.48	22.40
5	16QAM	25	0	22.59	22.55	22.44	22.38	22.42	22.47
5	64QAM	1	0	22.16	22.68	22.36	22.52	22.54	22.71
5	64QAM	1	12	22.50	22.73	22.39	22.54	22.53	22.44
5	64QAM	1	24	22.70	22.74	22.14	22.53	22.53	22.21
5	64QAM	12	0	21.10	21.62	21.29	21.42	21.43	21.40
5	64QAM	12	7	21.40	21.69	21.31	21.46	21.51	21.37
5	64QAM	12	13	21.55	21.69	21.19	21.45	21.45	21.24
5	64QAM	25	0	21.28	21.54	21.20	21.44	21.49	21.40
Channel				26705	26865	27025	26705	26865	27025
Frequency (MHz)				815.5	831.5	847.5	815.5	831.5	847.5
3	QPSK	1	0	24.30	24.40	24.42	22.30	22.29	22.39
3	QPSK	1	8	24.48	24.53	24.40	22.31	22.28	22.41
3	QPSK	1	14	24.36	24.42	24.30	22.33	22.27	22.33
3	QPSK	8	0	23.47	23.48	23.45	22.35	22.35	22.43
3	QPSK	8	4	23.56	23.59	23.47	22.44	22.45	22.42
3	QPSK	8	7	23.52	23.56	23.46	22.38	22.48	22.47
3	QPSK	15	0	23.51	23.46	23.44	22.39	22.46	22.43
3	16QAM	1	0	23.58	23.67	23.65	22.66	22.72	22.72
3	16QAM	1	8	23.80	23.82	23.65	22.55	22.68	22.67
3	16QAM	1	14	23.68	23.70	23.58	22.62	22.67	22.54
3	16QAM	8	0	22.58	22.62	22.58	22.38	22.41	22.40
3	16QAM	8	4	22.71	22.68	22.54	22.38	22.43	22.44
3	16QAM	8	7	22.64	22.63	22.51	22.43	22.42	22.48
3	16QAM	15	0	22.59	22.52	22.48	22.43	22.48	22.48
3	64QAM	1	0	22.13	22.67	22.42	22.52	22.63	22.72
3	64QAM	1	8	22.35	22.78	22.36	22.58	22.55	22.36
3	64QAM	1	14	22.53	22.68	22.13	22.55	22.58	22.21
3	64QAM	8	0	21.05	21.60	21.30	21.41	21.52	21.44
3	64QAM	8	4	21.13	21.69	21.26	21.38	21.49	21.29
3	64QAM	8	7	21.20	21.63	21.18	21.40	21.48	21.23
3	64QAM	15	0	21.06	21.55	21.22	21.41	21.51	21.40
Channel				26697	26865	27033	26697	26865	27033
Frequency (MHz)				814.7	831.5	848.3	814.7	831.5	848.3
1.4	QPSK	1	0	24.33	24.35	24.27	22.19	22.22	22.24
1.4	QPSK	1	3	24.43	24.48	24.37	22.29	22.36	22.34
1.4	QPSK	1	5	24.30	24.36	24.24	22.19	22.27	22.24
1.4	QPSK	3	0	24.38	24.36	24.30	22.22	22.27	22.33
1.4	QPSK	3	1	24.43	24.40	24.32	22.31	22.30	22.36
1.4	QPSK	3	3	24.40	24.42	24.27	22.28	22.31	22.28
1.4	QPSK	6	0	23.47	23.42	23.40	22.32	22.32	22.38
1.4	16QAM	1	0	23.65	23.63	23.51	22.48	22.55	22.55
1.4	16QAM	1	3	23.77	23.77	23.59	22.61	22.68	22.64
1.4	16QAM	1	5	23.64	23.67	23.54	22.51	22.56	22.48
1.4	16QAM	3	0	23.47	23.44	23.32	22.29	22.35	22.32





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1.4	16QAM	3	1	23.51	23.45	23.41	22.39	22.39	22.37
1.4	16QAM	3	3	23.47	23.45	23.33	22.32	22.37	22.30
1.4	16QAM	6	0	22.61	22.55	22.45	22.48	22.46	22.45
1.4	64QAM	1	0	22.04	22.60	22.13	22.45	22.53	22.06
1.4	64QAM	1	3	22.10	22.72	22.09	22.53	22.66	22.05
1.4	64QAM	1	5	22.08	22.65	21.96	22.47	22.55	21.96
1.4	64QAM	3	0	22.03	22.59	22.05	22.45	22.51	22.04
1.4	64QAM	3	1	22.09	22.65	22.09	22.53	22.57	22.08
1.4	64QAM	3	3	22.06	22.63	21.99	22.49	22.55	21.97
1.4	64QAM	6	0	20.87	21.48	20.92	21.35	21.40	20.87



Power Selection				Near body					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			25		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26765	26865	26965	26765	26865	26965
Frequency (MHz)				821.5	831.5	841.5	821.5	831.5	841.5
15	QPSK	1	0	24.55	24.57	24.55	24.55	24.57	24.55
15	QPSK	1	37	24.51	24.52	24.48	24.51	24.52	24.48
15	QPSK	1	74	24.58	24.59	24.46	24.58	24.59	24.46
15	QPSK	36	0	23.68	23.69	23.64	23.68	23.69	23.64
15	QPSK	36	20	23.71	23.71	23.68	23.71	23.71	23.68
15	QPSK	36	39	23.67	23.66	23.62	23.67	23.66	23.62
15	QPSK	75	0	23.68	23.66	23.63	23.68	23.66	23.63
15	16QAM	1	0	23.89	23.82	23.84	23.89	23.82	23.84
15	16QAM	1	37	23.75	23.83	23.76	23.75	23.83	23.76
15	16QAM	1	74	23.91	23.85	23.72	23.91	23.85	23.72
15	16QAM	36	0	22.70	22.71	22.68	22.70	22.71	22.68
15	16QAM	36	20	22.72	22.74	22.69	22.72	22.74	22.69
15	16QAM	36	39	22.70	22.67	22.65	22.70	22.67	22.65
15	16QAM	75	0	22.69	22.70	22.65	22.69	22.70	22.65
15	64QAM	1	0	22.61	22.78	22.80	22.61	22.78	22.80
15	64QAM	1	37	22.75	22.80	22.72	22.75	22.80	22.72
15	64QAM	1	74	22.76	22.81	22.37	22.76	22.81	22.37
15	64QAM	36	0	21.54	21.75	21.70	21.54	21.75	21.70
15	64QAM	36	20	21.74	21.79	21.71	21.74	21.79	21.71
15	64QAM	36	39	21.29	21.74	21.06	21.29	21.74	21.06
15	64QAM	75	0	21.42	21.66	21.53	21.42	21.66	21.53
Channel				26740	26865	26990	26740	26865	26990
Frequency (MHz)				819	831.5	844	819	831.5	844
10	QPSK	1	0	24.44	24.57	24.50	24.44	24.57	24.50
10	QPSK	1	25	24.44	24.46	24.39	24.44	24.46	24.39
10	QPSK	1	49	24.46	24.40	24.38	24.46	24.40	24.38
10	QPSK	25	0	23.52	23.56	23.49	23.52	23.56	23.49
10	QPSK	25	12	23.57	23.59	23.53	23.57	23.59	23.53
10	QPSK	25	25	23.57	23.56	23.50	23.57	23.56	23.50
10	QPSK	50	0	23.54	23.56	23.49	23.54	23.56	23.49
10	16QAM	1	0	23.66	23.81	23.72	23.66	23.81	23.72
10	16QAM	1	25	23.70	23.77	23.70	23.70	23.77	23.70
10	16QAM	1	49	23.69	23.75	23.65	23.69	23.75	23.65
10	16QAM	25	0	22.58	22.56	22.50	22.58	22.56	22.50
10	16QAM	25	12	22.58	22.62	22.55	22.58	22.62	22.55
10	16QAM	25	25	22.55	22.59	22.51	22.55	22.59	22.51
10	16QAM	50	0	22.57	22.58	22.51	22.57	22.58	22.51
10	64QAM	1	0	22.31	22.77	22.73	22.31	22.77	22.73
10	64QAM	1	25	22.66	22.72	22.41	22.66	22.72	22.41
10	64QAM	1	49	22.62	22.68	22.29	22.62	22.68	22.29
10	64QAM	25	0	21.48	21.60	21.51	21.48	21.60	21.51
10	64QAM	25	12	21.60	21.62	21.36	21.60	21.62	21.36
10	64QAM	25	25	21.55	21.63	21.23	21.55	21.63	21.23
10	64QAM	50	0	21.48	21.58	21.45	21.48	21.58	21.45
Channel				26715	26865	27015	26715	26865	27015
Frequency (MHz)				816.5	831.5	846.5	816.5	831.5	846.5
5	QPSK	1	0	24.32	24.37	24.35	24.32	24.37	24.35
5	QPSK	1	12	24.42	24.47	24.38	24.42	24.47	24.38
5	QPSK	1	24	24.48	24.45	24.37	24.48	24.45	24.37



5	QPSK	12	0	23.49	23.51	23.44	23.49	23.51	23.44
5	QPSK	12	7	23.61	23.60	23.53	23.61	23.60	23.53
5	QPSK	12	13	23.54	23.57	23.47	23.54	23.57	23.47
5	QPSK	25	0	23.52	23.53	23.44	23.52	23.53	23.44
5	16QAM	1	0	23.63	23.67	23.64	23.63	23.67	23.64
5	16QAM	1	12	23.77	23.77	23.71	23.77	23.77	23.71
5	16QAM	1	24	23.73	23.75	23.58	23.73	23.75	23.58
5	16QAM	12	0	22.53	22.53	22.46	22.53	22.53	22.46
5	16QAM	12	7	22.65	22.61	22.52	22.65	22.61	22.52
5	16QAM	12	13	22.61	22.59	22.51	22.61	22.59	22.51
5	16QAM	25	0	22.59	22.55	22.44	22.59	22.55	22.44
5	64QAM	1	0	22.16	22.68	22.36	22.16	22.68	22.36
5	64QAM	1	12	22.50	22.73	22.39	22.50	22.73	22.39
5	64QAM	1	24	22.70	22.74	22.14	22.70	22.74	22.14
5	64QAM	12	0	21.10	21.62	21.29	21.10	21.62	21.29
5	64QAM	12	7	21.40	21.69	21.31	21.40	21.69	21.31
5	64QAM	12	13	21.55	21.69	21.19	21.55	21.69	21.19
5	64QAM	25	0	21.28	21.54	21.20	21.28	21.54	21.20
Channel				26705	26865	27025	26705	26865	27025
Frequency (MHz)				815.5	831.5	847.5	815.5	831.5	847.5
3	QPSK	1	0	24.30	24.40	24.42	24.30	24.40	24.42
3	QPSK	1	8	24.48	24.53	24.40	24.48	24.53	24.40
3	QPSK	1	14	24.36	24.42	24.30	24.36	24.42	24.30
3	QPSK	8	0	23.47	23.48	23.45	23.47	23.48	23.45
3	QPSK	8	4	23.56	23.59	23.47	23.56	23.59	23.47
3	QPSK	8	7	23.52	23.56	23.46	23.52	23.56	23.46
3	QPSK	15	0	23.51	23.46	23.44	23.51	23.46	23.44
3	16QAM	1	0	23.58	23.67	23.65	23.58	23.67	23.65
3	16QAM	1	8	23.80	23.82	23.65	23.80	23.82	23.65
3	16QAM	1	14	23.68	23.70	23.58	23.68	23.70	23.58
3	16QAM	8	0	22.58	22.62	22.58	22.58	22.62	22.58
3	16QAM	8	4	22.71	22.68	22.54	22.71	22.68	22.54
3	16QAM	8	7	22.64	22.63	22.51	22.64	22.63	22.51
3	16QAM	15	0	22.59	22.52	22.48	22.59	22.52	22.48
3	64QAM	1	0	22.13	22.67	22.42	22.13	22.67	22.42
3	64QAM	1	8	22.35	22.78	22.36	22.35	22.78	22.36
3	64QAM	1	14	22.53	22.68	22.13	22.53	22.68	22.13
3	64QAM	8	0	21.05	21.60	21.30	21.05	21.60	21.30
3	64QAM	8	4	21.13	21.69	21.26	21.13	21.69	21.26
3	64QAM	8	7	21.20	21.63	21.18	21.20	21.63	21.18
3	64QAM	15	0	21.06	21.55	21.22	21.06	21.55	21.22
Channel				26697	26865	27033	26697	26865	27033
Frequency (MHz)				814.7	831.5	848.3	814.7	831.5	848.3
1.4	QPSK	1	0	24.33	24.35	24.27	24.33	24.35	24.27
1.4	QPSK	1	3	24.43	24.48	24.37	24.43	24.48	24.37
1.4	QPSK	1	5	24.30	24.36	24.24	24.30	24.36	24.24
1.4	QPSK	3	0	24.38	24.36	24.30	24.38	24.36	24.30
1.4	QPSK	3	1	24.43	24.40	24.32	24.43	24.40	24.32
1.4	QPSK	3	3	24.40	24.42	24.27	24.40	24.42	24.27
1.4	QPSK	6	0	23.47	23.42	23.40	23.47	23.42	23.40
1.4	16QAM	1	0	23.65	23.63	23.51	23.65	23.63	23.51
1.4	16QAM	1	3	23.77	23.77	23.59	23.77	23.77	23.59
1.4	16QAM	1	5	23.64	23.67	23.54	23.64	23.67	23.54
1.4	16QAM	3	0	23.47	23.44	23.32	23.47	23.44	23.32
1.4	16QAM	3	1	23.51	23.45	23.41	23.51	23.45	23.41
1.4	16QAM	3	3	23.47	23.45	23.33	23.47	23.45	23.33



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1.4	16QAM	6	0	22.61	22.55	22.45	22.61	22.55	22.45
1.4	64QAM	1	0	22.04	22.60	22.13	22.04	22.60	22.13
1.4	64QAM	1	3	22.10	22.72	22.09	22.10	22.72	22.09
1.4	64QAM	1	5	22.08	22.65	21.96	22.08	22.65	21.96
1.4	64QAM	3	0	22.03	22.59	22.05	22.03	22.59	22.05
1.4	64QAM	3	1	22.09	22.65	22.09	22.09	22.65	22.09
1.4	64QAM	3	3	22.06	22.63	21.99	22.06	22.63	21.99
1.4	64QAM	6	0	20.87	21.48	20.92	20.87	21.48	20.92



<LTE Band 66>

Power Selection				Head					
Transmit Antenna				Ant 0b			Ant 1		
Max. Power				24.75			21		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				132072	132322	132572	132072	132322	132572
Frequency (MHz)				1720	1745	1770	1720	1745	1770
20	QPSK	1	0	24.37	24.40	24.38	19.90	19.94	19.95
20	QPSK	1	49	24.29	24.29	24.23	19.88	19.87	19.83
20	QPSK	1	99	24.32	24.26	24.14	19.82	19.83	19.73
20	QPSK	50	0	23.50	23.54	23.48	20.08	20.09	20.10
20	QPSK	50	24	23.48	23.48	23.41	20.04	20.04	20.00
20	QPSK	50	50	23.41	23.43	23.38	19.98	19.99	19.92
20	QPSK	100	0	23.44	23.47	23.33	20.02	20.00	20.03
20	16QAM	1	0	23.62	23.63	23.63	20.25	20.27	20.25
20	16QAM	1	49	23.56	23.55	23.49	20.12	20.16	20.13
20	16QAM	1	99	23.54	23.53	23.44	20.07	20.11	19.99
20	16QAM	50	0	22.52	22.54	22.48	20.08	20.12	20.06
20	16QAM	50	24	22.48	22.48	22.42	20.06	20.07	20.03
20	16QAM	50	50	22.43	22.42	22.38	19.99	20.00	19.94
20	16QAM	100	0	22.46	22.47	22.41	20.03	20.05	20.00
20	64QAM	1	0	22.58	22.61	22.60	20.19	20.21	20.17
20	64QAM	1	49	22.45	22.51	22.45	20.07	20.12	20.06
20	64QAM	1	99	22.57	22.34	22.02	20.06	20.09	19.94
20	64QAM	50	0	21.51	21.56	21.51	20.10	20.13	20.08
20	64QAM	50	24	21.48	21.51	21.44	20.06	20.09	20.04
20	64QAM	50	50	21.42	21.44	21.39	20.01	20.03	19.98
20	64QAM	100	0	21.42	21.49	21.43	20.04	20.08	20.04
Channel				132047	132322	132597	132047	132322	132597
Frequency (MHz)				1717.5	1745	1772.5	1717.5	1745	1772.5
15	QPSK	1	0	24.18	24.25	24.19	19.84	19.90	19.95
15	QPSK	1	37	24.28	24.04	24.08	19.78	19.79	19.76
15	QPSK	1	74	24.17	24.01	23.96	19.77	19.73	19.63
15	QPSK	36	0	23.26	23.37	23.28	20.01	20.04	20.07
15	QPSK	36	20	23.23	23.34	23.16	19.94	19.94	19.97
15	QPSK	36	39	23.24	23.21	23.13	19.91	19.95	19.91
15	QPSK	75	0	23.26	23.30	23.18	20.00	19.94	20.01
15	16QAM	1	0	23.36	23.44	23.60	20.16	20.18	20.22
15	16QAM	1	37	23.53	23.52	23.37	20.03	20.10	20.12
15	16QAM	1	74	23.36	23.32	22.98	20.01	20.09	19.93
15	16QAM	36	0	22.31	22.33	22.26	20.00	20.08	20.00
15	16QAM	36	20	22.30	22.31	22.23	20.04	20.02	19.98
15	16QAM	36	39	22.19	22.22	22.21	19.90	19.98	19.88
15	16QAM	75	0	22.31	22.19	22.23	20.01	19.97	20.00
15	64QAM	1	0	22.30	22.44	22.66	20.11	20.14	20.12
15	64QAM	1	37	22.21	22.38	22.32	20.04	20.10	20.02
15	64QAM	1	74	21.86	22.32	21.57	19.98	20.05	19.93
15	64QAM	36	0	21.34	21.45	21.36	20.09	20.11	20.03
15	64QAM	36	20	21.20	21.41	21.30	20.05	19.99	20.03
15	64QAM	36	39	21.22	21.20	21.17	19.99	19.94	19.88
15	64QAM	75	0	21.27	21.36	21.17	19.97	19.99	19.95
Channel				132022	132322	132622	132022	132322	132622
Frequency (MHz)				1715	1745	1775	1715	1745	1775
10	QPSK	1	0	23.90	24.09	23.88	19.88	19.86	19.93
10	QPSK	1	25	23.90	23.86	23.85	19.78	19.84	19.82



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10	QPSK	1	49	23.85	24.24	23.77	19.81	19.75	19.71
10	QPSK	25	0	23.19	23.11	23.08	20.07	20.02	20.05
10	QPSK	25	12	23.10	23.13	23.09	20.02	19.98	20.00
10	QPSK	25	25	23.11	23.13	23.02	19.92	19.98	19.88
10	QPSK	50	0	23.17	23.11	23.08	19.94	19.99	20.02
10	16QAM	1	0	22.92	23.21	23.11	20.17	20.23	20.24
10	16QAM	1	25	23.54	23.25	22.90	20.04	20.07	20.11
10	16QAM	1	49	23.24	22.83	23.46	20.00	20.05	19.90
10	16QAM	25	0	22.15	21.97	22.01	20.01	20.10	20.02
10	16QAM	25	12	22.14	22.25	22.13	19.99	20.00	19.98
10	16QAM	25	25	22.18	22.03	22.02	19.91	19.99	19.86
10	16QAM	50	0	22.14	22.16	22.07	19.98	20.05	19.98
10	64QAM	1	0	22.31	22.13	22.40	20.14	20.19	20.12
10	64QAM	1	25	21.74	22.29	22.17	20.03	20.07	19.98
10	64QAM	1	49	21.75	22.27	21.79	20.01	19.99	19.93
10	64QAM	25	0	21.27	21.15	21.14	20.01	20.07	20.08
10	64QAM	25	12	21.11	21.06	21.05	20.02	20.01	20.02
10	64QAM	25	25	21.09	21.11	21.07	19.97	20.03	19.94
10	64QAM	50	0	21.26	21.05	21.13	20.01	19.99	19.95
Channel				131997	132322	132647	131997	132322	132647
Frequency (MHz)				1712.5	1745	1777.5	1712.5	1745	1777.5
5	QPSK	1	0	23.95	24.07	23.79	19.81	19.87	19.91
5	QPSK	1	12	24.08	24.04	23.97	19.82	19.85	19.81
5	QPSK	1	24	24.16	24.01	23.88	19.77	19.79	19.70
5	QPSK	12	0	23.12	23.09	23.03	20.01	20.09	20.01
5	QPSK	12	7	23.22	23.20	23.03	20.03	20.04	19.97
5	QPSK	12	13	23.25	23.14	23.11	19.88	19.95	19.88
5	QPSK	25	0	23.25	23.16	22.99	20.00	19.90	19.97
5	16QAM	1	0	23.53	23.08	23.37	20.22	20.25	20.23
5	16QAM	1	12	23.45	23.30	23.50	20.06	20.13	20.03
5	16QAM	1	24	23.26	23.02	23.49	20.02	20.07	19.92
5	16QAM	12	0	22.12	22.07	22.01	20.05	20.12	20.03
5	16QAM	12	7	22.27	22.08	22.06	20.01	19.98	20.01
5	16QAM	12	13	22.26	22.21	21.98	19.97	19.96	19.88
5	16QAM	25	0	22.31	22.04	22.06	20.03	20.01	19.91
5	64QAM	1	0	22.24	22.09	21.93	20.10	20.19	20.13
5	64QAM	1	12	22.32	22.13	22.06	19.98	20.07	20.06
5	64QAM	1	24	22.53	22.19	21.84	20.02	20.02	19.84
5	64QAM	12	0	21.26	21.19	21.07	20.08	20.10	19.98
5	64QAM	12	7	21.21	21.30	21.38	19.97	20.09	20.01
5	64QAM	12	13	21.26	21.17	21.17	19.95	20.02	19.98
5	64QAM	25	0	21.24	21.14	21.12	19.94	20.00	20.04
Channel				131987	132322	132657	131987	132322	132657
Frequency (MHz)				1711.5	1745	1778.5	1711.5	1745	1778.5
3	QPSK	1	0	24.10	23.97	23.93	19.86	19.84	19.93
3	QPSK	1	8	24.09	24.15	24.10	19.79	19.79	19.77
3	QPSK	1	14	24.04	23.99	23.88	19.72	19.82	19.63
3	QPSK	8	0	23.17	23.09	23.08	20.06	20.03	20.10
3	QPSK	8	4	23.17	23.21	23.04	19.99	20.04	19.96
3	QPSK	8	7	23.21	23.15	23.12	19.90	19.92	19.87
3	QPSK	15	0	23.28	23.11	23.11	20.02	19.99	19.93
3	16QAM	1	0	23.50	23.03	23.09	20.18	20.21	20.21
3	16QAM	1	8	23.24	23.26	23.25	20.11	20.08	20.10
3	16QAM	1	14	23.22	23.13	22.87	20.04	20.02	19.89
3	16QAM	8	0	22.25	22.19	22.09	20.05	20.08	19.97
3	16QAM	8	4	22.29	22.18	22.05	20.04	20.03	20.03



3	16QAM	8	7	22.22	22.18	22.16	19.98	19.97	19.89
3	16QAM	15	0	22.28	22.16	22.11	19.96	19.97	19.97
3	64QAM	1	0	21.88	22.03	22.03	20.15	20.21	20.11
3	64QAM	1	8	22.44	22.19	21.95	20.01	20.03	20.03
3	64QAM	1	14	21.98	22.40	22.01	19.96	20.06	19.84
3	64QAM	8	0	21.16	21.08	21.01	20.06	20.04	20.03
3	64QAM	8	4	21.27	21.33	21.02	19.98	20.06	19.97
3	64QAM	8	7	21.16	21.23	21.26	19.97	19.97	19.90
3	64QAM	15	0	21.28	21.04	21.11	20.02	20.03	20.00
Channel				131979	132322	132665	131979	132322	132665
Frequency (MHz)				1710.7	1745	1779.3	1710.7	1745	1779.3
1.4	QPSK	1	0	23.93	23.96	23.82	19.85	19.86	19.85
1.4	QPSK	1	3	24.05	24.03	23.90	19.80	19.80	19.78
1.4	QPSK	1	5	24.07	23.98	23.92	19.77	19.74	19.63
1.4	QPSK	3	0	24.02	24.03	23.88	19.99	20.02	20.07
1.4	QPSK	3	1	24.04	24.07	23.91	20.00	20.04	19.92
1.4	QPSK	3	3	24.03	24.02	23.96	19.93	19.97	19.90
1.4	QPSK	6	0	23.13	23.08	22.93	19.96	19.98	19.98
1.4	16QAM	1	0	23.07	22.91	22.96	20.15	20.17	20.23
1.4	16QAM	1	3	23.23	23.26	23.23	20.07	20.07	20.13
1.4	16QAM	1	5	23.20	23.05	23.10	19.97	20.06	19.94
1.4	16QAM	3	0	22.90	23.09	22.96	20.03	20.05	19.96
1.4	16QAM	3	1	23.14	23.04	23.09	19.96	20.04	19.99
1.4	16QAM	3	3	23.13	23.05	22.88	19.89	19.95	19.86
1.4	16QAM	6	0	22.22	22.22	22.08	20.01	19.96	19.94
1.4	64QAM	1	0	22.05	22.30	21.84	20.18	20.12	20.15
1.4	64QAM	1	3	22.36	22.32	21.76	20.03	20.07	19.96
1.4	64QAM	1	5	22.33	21.82	21.64	20.04	20.04	19.89
1.4	64QAM	3	0	22.09	22.22	21.87	20.08	20.06	20.07
1.4	64QAM	3	1	21.97	22.21	21.92	20.00	20.08	19.96
1.4	64QAM	3	3	22.29	22.20	21.84	20.01	19.94	19.90
1.4	64QAM	6	0	21.05	21.06	20.94	19.94	20.07	19.99



Power Selection				Near body					
Transmit Antenna				Ant 0b			Ant 1		
Max. Power				24.75			24.75		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				132072	132322	132572	132072	132322	132572
Frequency (MHz)				1720	1745	1770	1720	1745	1770
20	QPSK	1	0	24.37	24.40	24.38	24.37	24.40	24.38
20	QPSK	1	49	24.29	24.29	24.23	24.29	24.29	24.23
20	QPSK	1	99	24.32	24.26	24.14	24.32	24.26	24.14
20	QPSK	50	0	23.50	23.54	23.48	23.50	23.54	23.48
20	QPSK	50	24	23.48	23.48	23.41	23.48	23.48	23.41
20	QPSK	50	50	23.41	23.43	23.38	23.41	23.43	23.38
20	QPSK	100	0	23.44	23.47	23.33	23.44	23.47	23.33
20	16QAM	1	0	23.62	23.63	23.63	23.62	23.63	23.63
20	16QAM	1	49	23.56	23.55	23.49	23.56	23.55	23.49
20	16QAM	1	99	23.54	23.53	23.44	23.54	23.53	23.44
20	16QAM	50	0	22.52	22.54	22.48	22.52	22.54	22.48
20	16QAM	50	24	22.48	22.48	22.42	22.48	22.48	22.42
20	16QAM	50	50	22.43	22.42	22.38	22.43	22.42	22.38
20	16QAM	100	0	22.46	22.47	22.41	22.46	22.47	22.41
20	64QAM	1	0	22.58	22.61	22.60	22.58	22.61	22.60
20	64QAM	1	49	22.45	22.51	22.45	22.45	22.51	22.45
20	64QAM	1	99	22.57	22.34	22.02	22.57	22.34	22.02
20	64QAM	50	0	21.51	21.56	21.51	21.51	21.56	21.51
20	64QAM	50	24	21.48	21.51	21.44	21.48	21.51	21.44
20	64QAM	50	50	21.42	21.44	21.39	21.42	21.44	21.39
20	64QAM	100	0	21.42	21.49	21.43	21.42	21.49	21.43
Channel				132047	132322	132597	132047	132322	132597
Frequency (MHz)				1717.5	1745	1772.5	1717.5	1745	1772.5
15	QPSK	1	0	24.18	24.25	24.19	24.18	24.25	24.19
15	QPSK	1	37	24.28	24.04	24.08	24.28	24.04	24.08
15	QPSK	1	74	24.17	24.01	23.96	24.17	24.01	23.96
15	QPSK	36	0	23.26	23.37	23.28	23.26	23.37	23.28
15	QPSK	36	20	23.23	23.34	23.16	23.23	23.34	23.16
15	QPSK	36	39	23.24	23.21	23.13	23.24	23.21	23.13
15	QPSK	75	0	23.26	23.30	23.18	23.26	23.30	23.18
15	16QAM	1	0	23.36	23.44	23.60	23.36	23.44	23.60
15	16QAM	1	37	23.53	23.52	23.37	23.53	23.52	23.37
15	16QAM	1	74	23.36	23.32	22.98	23.36	23.32	22.98
15	16QAM	36	0	22.31	22.33	22.26	22.31	22.33	22.26
15	16QAM	36	20	22.30	22.31	22.23	22.30	22.31	22.23
15	16QAM	36	39	22.19	22.22	22.21	22.19	22.22	22.21
15	16QAM	75	0	22.31	22.19	22.23	22.31	22.19	22.23
15	64QAM	1	0	22.30	22.44	22.66	22.30	22.44	22.66
15	64QAM	1	37	22.21	22.38	22.32	22.21	22.38	22.32
15	64QAM	1	74	21.86	22.32	21.57	21.86	22.32	21.57
15	64QAM	36	0	21.34	21.45	21.36	21.34	21.45	21.36
15	64QAM	36	20	21.20	21.41	21.30	21.20	21.41	21.30
15	64QAM	36	39	21.22	21.20	21.17	21.22	21.20	21.17
15	64QAM	75	0	21.27	21.36	21.17	21.27	21.36	21.17
Channel				132022	132322	132622	132022	132322	132622
Frequency (MHz)				1715	1745	1775	1715	1745	1775
10	QPSK	1	0	23.90	24.09	23.88	23.90	24.09	23.88
10	QPSK	1	25	23.90	23.86	23.85	23.90	23.86	23.85
10	QPSK	1	49	23.85	24.24	23.77	23.85	24.24	23.77





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10	QPSK	25	0	23.19	23.11	23.08	23.19	23.11	23.08
10	QPSK	25	12	23.10	23.13	23.09	23.10	23.13	23.09
10	QPSK	25	25	23.11	23.13	23.02	23.11	23.13	23.02
10	QPSK	50	0	23.17	23.11	23.08	23.17	23.11	23.08
10	16QAM	1	0	22.92	23.21	23.11	22.92	23.21	23.11
10	16QAM	1	25	23.54	23.25	22.90	23.54	23.25	22.90
10	16QAM	1	49	23.24	22.83	23.46	23.24	22.83	23.46
10	16QAM	25	0	22.15	21.97	22.01	22.15	21.97	22.01
10	16QAM	25	12	22.14	22.25	22.13	22.14	22.25	22.13
10	16QAM	25	25	22.18	22.03	22.02	22.18	22.03	22.02
10	16QAM	50	0	22.14	22.16	22.07	22.14	22.16	22.07
10	64QAM	1	0	22.31	22.13	22.40	22.31	22.13	22.40
10	64QAM	1	25	21.74	22.29	22.17	21.74	22.29	22.17
10	64QAM	1	49	21.75	22.27	21.79	21.75	22.27	21.79
10	64QAM	25	0	21.27	21.15	21.14	21.27	21.15	21.14
10	64QAM	25	12	21.11	21.06	21.05	21.11	21.06	21.05
10	64QAM	25	25	21.09	21.11	21.07	21.09	21.11	21.07
10	64QAM	50	0	21.26	21.05	21.13	21.26	21.05	21.13
Channel				131997	132322	132647	131997	132322	132647
Frequency (MHz)				1712.5	1745	1777.5	1712.5	1745	1777.5
5	QPSK	1	0	23.95	24.07	23.79	23.95	24.07	23.79
5	QPSK	1	12	24.08	24.04	23.97	24.08	24.04	23.97
5	QPSK	1	24	24.16	24.01	23.88	24.16	24.01	23.88
5	QPSK	12	0	23.12	23.09	23.03	23.12	23.09	23.03
5	QPSK	12	7	23.22	23.20	23.03	23.22	23.20	23.03
5	QPSK	12	13	23.25	23.14	23.11	23.25	23.14	23.11
5	QPSK	25	0	23.25	23.16	22.99	23.25	23.16	22.99
5	16QAM	1	0	23.53	23.08	23.37	23.53	23.08	23.37
5	16QAM	1	12	23.45	23.30	23.50	23.45	23.30	23.50
5	16QAM	1	24	23.26	23.02	23.49	23.26	23.02	23.49
5	16QAM	12	0	22.12	22.07	22.01	22.12	22.07	22.01
5	16QAM	12	7	22.27	22.08	22.06	22.27	22.08	22.06
5	16QAM	12	13	22.26	22.21	21.98	22.26	22.21	21.98
5	16QAM	25	0	22.31	22.04	22.06	22.31	22.04	22.06
5	64QAM	1	0	22.24	22.09	21.93	22.24	22.09	21.93
5	64QAM	1	12	22.32	22.13	22.06	22.32	22.13	22.06
5	64QAM	1	24	22.53	22.19	21.84	22.53	22.19	21.84
5	64QAM	12	0	21.26	21.19	21.07	21.26	21.19	21.07
5	64QAM	12	7	21.21	21.30	21.38	21.21	21.30	21.38
5	64QAM	12	13	21.26	21.17	21.17	21.26	21.17	21.17
5	64QAM	25	0	21.24	21.14	21.12	21.24	21.14	21.12
Channel				131987	132322	132657	131987	132322	132657
Frequency (MHz)				1711.5	1745	1778.5	1711.5	1745	1778.5
3	QPSK	1	0	24.10	23.97	23.93	24.10	23.97	23.93
3	QPSK	1	8	24.09	24.15	24.10	24.09	24.15	24.10
3	QPSK	1	14	24.04	23.99	23.88	24.04	23.99	23.88
3	QPSK	8	0	23.17	23.09	23.08	23.17	23.09	23.08
3	QPSK	8	4	23.17	23.21	23.04	23.17	23.21	23.04
3	QPSK	8	7	23.21	23.15	23.12	23.21	23.15	23.12
3	QPSK	15	0	23.28	23.11	23.11	23.28	23.11	23.11
3	16QAM	1	0	23.50	23.03	23.09	23.50	23.03	23.09
3	16QAM	1	8	23.24	23.26	23.25	23.24	23.26	23.25
3	16QAM	1	14	23.22	23.13	22.87	23.22	23.13	22.87
3	16QAM	8	0	22.25	22.19	22.09	22.25	22.19	22.09
3	16QAM	8	4	22.29	22.18	22.05	22.29	22.18	22.05
3	16QAM	8	7	22.22	22.18	22.16	22.22	22.18	22.16



3	16QAM	15	0	22.28	22.16	22.11	22.28	22.16	22.11
3	64QAM	1	0	21.88	22.03	22.03	21.88	22.03	22.03
3	64QAM	1	8	22.44	22.19	21.95	22.44	22.19	21.95
3	64QAM	1	14	21.98	22.40	22.01	21.98	22.40	22.01
3	64QAM	8	0	21.16	21.08	21.01	21.16	21.08	21.01
3	64QAM	8	4	21.27	21.33	21.02	21.27	21.33	21.02
3	64QAM	8	7	21.16	21.23	21.26	21.16	21.23	21.26
3	64QAM	15	0	21.28	21.04	21.11	21.28	21.04	21.11
Channel				131979	132322	132665	131979	132322	132665
Frequency (MHz)				1710.7	1745	1779.3	1710.7	1745	1779.3
1.4	QPSK	1	0	23.93	23.96	23.82	23.93	23.96	23.82
1.4	QPSK	1	3	24.05	24.03	23.90	24.05	24.03	23.90
1.4	QPSK	1	5	24.07	23.98	23.92	24.07	23.98	23.92
1.4	QPSK	3	0	24.02	24.03	23.88	24.02	24.03	23.88
1.4	QPSK	3	1	24.04	24.07	23.91	24.04	24.07	23.91
1.4	QPSK	3	3	24.03	24.02	23.96	24.03	24.02	23.96
1.4	QPSK	6	0	23.13	23.08	22.93	23.13	23.08	22.93
1.4	16QAM	1	0	23.07	22.91	22.96	23.07	22.91	22.96
1.4	16QAM	1	3	23.23	23.26	23.23	23.23	23.26	23.23
1.4	16QAM	1	5	23.20	23.05	23.10	23.20	23.05	23.10
1.4	16QAM	3	0	22.90	23.09	22.96	22.90	23.09	22.96
1.4	16QAM	3	1	23.14	23.04	23.09	23.14	23.04	23.09
1.4	16QAM	3	3	23.13	23.05	22.88	23.13	23.05	22.88
1.4	16QAM	6	0	22.22	22.22	22.08	22.22	22.22	22.08
1.4	64QAM	1	0	22.05	22.30	21.84	22.05	22.30	21.84
1.4	64QAM	1	3	22.36	22.32	21.76	22.36	22.32	21.76
1.4	64QAM	1	5	22.33	21.82	21.64	22.33	21.82	21.64
1.4	64QAM	3	0	22.09	22.22	21.87	22.09	22.22	21.87
1.4	64QAM	3	1	21.97	22.21	21.92	21.97	22.21	21.92
1.4	64QAM	3	3	22.29	22.20	21.84	22.29	22.20	21.84
1.4	64QAM	6	0	21.05	21.06	20.94	21.05	21.06	20.94



<LTE Band 71>

Power Selection				Head / Near body					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			25		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				133222	133297	133372	133222	133297	133372
Frequency (MHz)				673	680.5	688	673	680.5	688
20	QPSK	1	0	24.61	24.66	24.67	24.61	24.66	24.67
20	QPSK	1	49	24.51	24.50	24.53	24.51	24.50	24.53
20	QPSK	1	99	24.38	24.45	24.47	24.38	24.45	24.47
20	QPSK	50	0	23.61	23.64	23.69	23.61	23.64	23.69
20	QPSK	50	24	23.66	23.69	23.74	23.66	23.69	23.74
20	QPSK	50	50	23.69	23.70	23.69	23.69	23.70	23.69
20	QPSK	100	0	23.66	23.69	23.73	23.66	23.69	23.73
20	16QAM	1	0	23.89	23.89	23.92	23.89	23.89	23.92
20	16QAM	1	49	23.82	23.75	23.87	23.82	23.75	23.87
20	16QAM	1	99	23.64	23.73	23.71	23.64	23.73	23.71
20	16QAM	50	0	22.64	22.63	22.69	22.64	22.63	22.69
20	16QAM	50	24	22.72	22.71	22.74	22.72	22.71	22.74
20	16QAM	50	50	22.74	22.73	22.68	22.74	22.73	22.68
20	16QAM	100	0	22.67	22.66	22.71	22.67	22.66	22.71
20	64QAM	1	0	22.83	22.88	22.82	22.83	22.88	22.82
20	64QAM	1	49	22.73	22.69	22.74	22.73	22.69	22.74
20	64QAM	1	99	22.61	22.66	22.57	22.61	22.66	22.57
20	64QAM	50	0	21.64	21.66	21.69	21.64	21.66	21.69
20	64QAM	50	24	21.71	21.70	21.76	21.71	21.70	21.76
20	64QAM	50	50	21.72	21.73	21.70	21.72	21.73	21.70
20	64QAM	100	0	21.71	21.67	21.73	21.71	21.67	21.73
Channel				133197	133297	133397	133197	133297	133397
Frequency (MHz)				670.5	680.5	690.5	670.5	680.5	690.5
15	QPSK	1	0	24.65	24.59	24.65	24.65	24.59	24.65
15	QPSK	1	37	24.50	24.47	24.52	24.50	24.47	24.52
15	QPSK	1	74	24.50	24.49	24.47	24.50	24.49	24.47
15	QPSK	36	0	23.62	23.60	23.70	23.62	23.60	23.70
15	QPSK	36	20	23.67	23.69	23.70	23.67	23.69	23.70
15	QPSK	36	39	23.62	23.76	23.68	23.62	23.76	23.68
15	QPSK	75	0	23.67	23.67	23.73	23.67	23.67	23.73
15	16QAM	1	0	23.92	23.88	23.96	23.92	23.88	23.96
15	16QAM	1	37	23.91	23.81	23.80	23.91	23.81	23.80
15	16QAM	1	74	23.77	23.73	23.68	23.77	23.73	23.68
15	16QAM	36	0	22.61	22.60	22.71	22.61	22.60	22.71
15	16QAM	36	20	22.73	22.68	22.71	22.73	22.68	22.71
15	16QAM	36	39	22.67	22.75	22.70	22.67	22.75	22.70
15	16QAM	75	0	22.70	22.69	22.72	22.70	22.69	22.72
15	64QAM	1	0	22.79	22.79	22.81	22.79	22.79	22.81
15	64QAM	1	37	22.91	22.88	22.89	22.91	22.88	22.89
15	64QAM	1	74	22.82	22.71	22.83	22.82	22.71	22.83
15	64QAM	36	0	21.65	21.64	21.67	21.65	21.64	21.67
15	64QAM	36	20	21.71	21.71	21.75	21.71	21.71	21.75
15	64QAM	36	39	21.70	21.71	21.71	21.70	21.71	21.71
15	64QAM	75	0	21.72	21.71	21.71	21.72	21.71	21.71
Channel				133172	133297	133422	133172	133297	133422
Frequency (MHz)				668	680.5	693	668	680.5	693
10	QPSK	1	0	24.50	24.43	24.55	24.50	24.43	24.55
10	QPSK	1	25	24.38	24.40	24.42	24.38	24.40	24.42



10	QPSK	1	49	24.38	24.30	24.30	24.38	24.30	24.30
10	QPSK	25	0	23.52	23.53	23.51	23.52	23.53	23.51
10	QPSK	25	12	23.49	23.51	23.51	23.49	23.51	23.51
10	QPSK	25	25	23.45	23.50	23.48	23.45	23.50	23.48
10	QPSK	50	0	23.50	23.50	23.53	23.50	23.50	23.53
10	16QAM	1	0	23.78	23.63	23.75	23.78	23.63	23.75
10	16QAM	1	25	23.67	23.66	23.70	23.67	23.66	23.70
10	16QAM	1	49	23.77	23.60	23.50	23.77	23.60	23.50
10	16QAM	25	0	22.53	22.52	22.53	22.53	22.52	22.53
10	16QAM	25	12	22.54	22.53	22.56	22.54	22.53	22.56
10	16QAM	25	25	22.49	22.50	22.50	22.49	22.50	22.50
10	16QAM	50	0	22.52	22.51	22.55	22.52	22.51	22.55
10	64QAM	1	0	22.72	22.57	22.81	22.72	22.57	22.81
10	64QAM	1	25	22.64	22.61	22.68	22.64	22.61	22.68
10	64QAM	1	49	22.76	22.56	22.41	22.76	22.56	22.41
10	64QAM	25	0	21.54	21.52	21.58	21.54	21.52	21.58
10	64QAM	25	12	21.55	21.55	21.56	21.55	21.55	21.56
10	64QAM	25	25	21.51	21.54	21.50	21.51	21.54	21.50
10	64QAM	50	0	21.55	21.53	21.58	21.55	21.53	21.58
Channel				133147	133297	133447	133147	133297	133447
Frequency (MHz)				665.5	680.5	695.5	665.5	680.5	695.5
5	QPSK	1	0	24.33	24.29	24.34	24.33	24.29	24.34
5	QPSK	1	12	24.44	24.41	24.43	24.44	24.41	24.43
5	QPSK	1	24	24.44	24.44	24.45	24.44	24.44	24.45
5	QPSK	12	0	23.47	23.48	23.45	23.47	23.48	23.45
5	QPSK	12	7	23.57	23.58	23.50	23.57	23.58	23.50
5	QPSK	12	13	23.58	23.56	23.54	23.58	23.56	23.54
5	QPSK	25	0	23.54	23.55	23.47	23.54	23.55	23.47
5	16QAM	1	0	23.61	23.51	23.63	23.61	23.51	23.63
5	16QAM	1	12	23.74	23.66	23.74	23.74	23.66	23.74
5	16QAM	1	24	23.70	23.73	23.71	23.70	23.73	23.71
5	16QAM	12	0	22.49	22.51	22.51	22.49	22.51	22.51
5	16QAM	12	7	22.63	22.58	22.55	22.63	22.58	22.55
5	16QAM	12	13	22.60	22.59	22.56	22.60	22.59	22.56
5	16QAM	25	0	22.53	22.57	22.52	22.53	22.57	22.52
5	64QAM	1	0	22.58	22.61	22.57	22.58	22.61	22.57
5	64QAM	1	12	22.71	22.67	22.49	22.71	22.67	22.49
5	64QAM	1	24	22.70	22.69	22.09	22.70	22.69	22.09
5	64QAM	12	0	21.55	21.58	21.43	21.55	21.58	21.43
5	64QAM	12	7	21.62	21.66	21.49	21.62	21.66	21.49
5	64QAM	12	13	21.61	21.69	21.26	21.61	21.69	21.26
5	64QAM	25	0	21.60	21.59	21.34	21.60	21.59	21.34





<b>Special subframe (30720·T<sub>s</sub>): Normal cyclic prefix in downlink (UpPTS)</b>			
	<b>Special subframe configuration</b>	<b>Normal cyclic prefix in uplink</b>	<b>Extended cyclic prefix in uplink</b>
<b>Uplink duty factor in one special subframe</b>	<b>0~4</b>	7.13%	8.33%
	<b>5~9</b>	14.3%	16.7%

<b>Special subframe(30720·T<sub>s</sub>): Extended cyclic prefix in downlink (UpPTS)</b>			
	<b>Special subframe configuration</b>	<b>Normal cyclic prefix in uplink</b>	<b>Extended cyclic prefix in uplink</b>
<b>Uplink duty factor in one special subframe</b>	<b>0~3</b>	7.13%	8.33%
	<b>4~7</b>	14.3%	16.7%

The highest duty factor is resulted from:

- i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(3+0.167)/5 = 63.3\%$
- iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(3+0.143)/5 = 62.9\%$
- v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix  $63.3\%/62.9\% = 1.006$  is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.
- vi. The device supports Power Class 3 uplink-downlink configurations 0 and 6, and Power Class 2 uplink-downlink configurations 1 to 5 operations for LTE Band 41
- vii. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1, for Power Class 3 operation is 63.3% using UL-DL configuration 0. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition
- viii. Ant 0c not supports power class2 for LTE B41; power class 2 not supports UL CA.
- ix.



**<LTE Band 38>**

SAR for LTE B38 is covered by LTE B41 due to overlapping frequency range, less or same maximum tune-up limit and the same channel bandwidth

**<LTE Band 41 power class 3>**

Power Selection				Head									
Transmit Antenna				Ant 0b / Ant 0c					Ant 1				
Max. Power				24.8					21.5				
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	2506	2549.5	2593	2636.5	2680
20	QPSK	1	0	24.60	24.49	24.45	24.45	24.43	20.49	20.44	20.44	20.50	20.51
20	QPSK	1	49	24.57	24.51	24.53	24.51	24.64	20.48	20.43	20.42	20.38	20.50
20	QPSK	1	99	24.61	24.52	24.54	24.52	24.78	20.50	20.42	20.43	20.39	20.50
20	QPSK	50	0	23.72	23.63	23.64	23.70	23.68	20.69	20.51	20.59	20.63	20.70
20	QPSK	50	24	23.72	23.61	23.67	23.70	23.73	20.68	20.54	20.67	20.62	20.76
20	QPSK	50	50	23.74	23.64	23.68	23.71	23.80	20.70	20.55	20.68	20.64	20.83
20	QPSK	100	0	23.74	23.60	23.65	23.69	23.75	20.65	20.57	20.63	20.66	20.73
20	16QAM	1	0	23.70	23.59	23.57	23.63	23.57	20.69	20.56	20.50	20.64	20.51
20	16QAM	1	49	23.65	23.55	23.62	23.64	23.70	20.61	20.54	20.58	20.60	20.68
20	16QAM	1	99	23.65	23.55	23.57	23.48	23.75	20.55	20.55	20.56	20.44	20.87
20	16QAM	50	0	22.76	22.66	22.65	22.73	22.71	20.69	20.62	20.62	20.72	20.70
20	16QAM	50	24	22.76	22.63	22.70	22.71	22.77	20.73	20.62	20.67	20.72	20.78
20	16QAM	50	50	22.78	22.59	22.70	22.68	22.80	20.74	20.58	20.69	20.67	20.86
20	16QAM	100	0	22.77	22.60	22.67	22.69	22.78	20.71	20.59	20.64	20.67	20.78
20	64QAM	1	0	22.48	22.36	22.29	22.42	22.32	20.39	20.29	20.26	20.36	20.28
20	64QAM	1	49	22.42	22.35	22.35	22.40	22.45	20.34	20.28	20.34	20.39	20.44
20	64QAM	1	99	22.37	22.30	22.33	22.25	22.61	20.28	20.24	20.29	20.20	20.59
20	64QAM	50	0	21.72	21.63	21.64	21.73	21.72	20.67	20.58	20.61	20.70	20.66
20	64QAM	50	24	21.73	21.63	21.68	21.72	21.76	20.68	20.59	20.65	20.67	20.74
20	64QAM	50	50	21.76	21.59	21.69	21.66	21.80	20.70	20.55	20.67	20.64	20.83
20	64QAM	100	0	21.74	21.60	21.65	21.69	21.78	20.69	20.57	20.63	20.68	20.76
Channel				39725	40173	40620	41068	41515	39725	40173	40620	41068	41515
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	2503.5	2548.3	2593	2637.8	2682.5
15	QPSK	1	0	24.61	24.45	24.50	24.58	24.48	20.42	20.44	20.40	20.34	20.44
15	QPSK	1	37	24.52	24.40	24.47	24.54	24.50	20.40	20.39	20.33	20.36	20.43
15	QPSK	1	74	24.61	24.45	24.54	24.51	24.71	20.50	20.39	20.40	20.33	20.48
15	QPSK	36	0	23.67	23.59	23.60	23.68	23.65	20.63	20.41	20.51	20.61	20.64
15	QPSK	36	20	23.71	23.61	23.66	23.69	23.73	20.60	20.48	20.62	20.55	20.66
15	QPSK	36	39	23.73	23.59	23.65	23.67	23.76	20.69	20.52	20.64	20.60	20.78
15	QPSK	75	0	23.74	23.60	23.65	23.68	23.73	20.56	20.51	20.62	20.62	20.70
15	16QAM	1	0	23.72	23.55	23.54	23.67	23.56	20.59	20.54	20.45	20.58	20.47
15	16QAM	1	37	23.67	23.58	23.54	23.61	23.68	20.52	20.44	20.51	20.59	20.62
15	16QAM	1	74	23.66	23.50	23.62	23.58	23.71	20.47	20.53	20.52	20.39	20.77
15	16QAM	36	0	22.65	22.56	22.58	22.64	22.63	20.67	20.52	20.58	20.62	20.68
15	16QAM	36	20	22.68	22.59	22.63	22.65	22.72	20.67	20.62	20.58	20.67	20.78
15	16QAM	36	39	22.69	22.54	22.62	22.61	22.75	20.73	20.53	20.60	20.62	20.77
15	16QAM	75	0	22.73	22.63	22.69	22.72	22.75	20.67	20.58	20.55	20.65	20.70
15	64QAM	1	0	22.48	22.29	22.28	22.42	22.35	20.32	20.22	20.18	20.28	20.22
15	64QAM	1	37	22.46	22.35	22.27	22.43	22.48	20.27	20.23	20.26	20.37	20.35
15	64QAM	1	74	22.43	22.27	22.34	22.34	22.56	20.24	20.21	20.25	20.16	20.54
15	64QAM	36	0	21.67	21.60	21.57	21.68	21.65	20.60	20.54	20.57	20.60	20.59
15	64QAM	36	20	21.72	21.61	21.65	21.67	21.74	20.67	20.56	20.62	20.61	20.65



**FCC SAR TEST REPORT**

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15	64QAM	36	39	21.72	21.56	21.66	21.64	21.79	20.62	20.48	20.67	20.64	20.82
15	64QAM	75	0	21.75	21.59	21.65	21.69	21.74	20.62	20.48	20.55	20.66	20.68
Channel				39700	40160	40620	41080	41540	39700	40160	40620	41080	41540
Frequency (MHz)				2501	2547	2593	2639	2685	2501	2547	2593	2639	2685
10	QPSK	1	0	24.42	24.31	24.32	24.35	24.39	20.41	20.40	20.35	20.30	20.44
10	QPSK	1	25	24.41	24.36	24.34	24.43	24.47	20.44	20.40	20.34	20.31	20.41
10	QPSK	1	49	24.47	24.37	24.39	24.43	24.50	20.40	20.40	20.36	20.29	20.46
10	QPSK	25	0	23.57	23.48	23.49	23.54	23.60	20.59	20.43	20.51	20.53	20.64
10	QPSK	25	12	23.58	23.50	23.52	23.57	23.61	20.60	20.47	20.63	20.56	20.67
10	QPSK	25	25	23.53	23.47	23.47	23.53	23.58	20.60	20.48	20.62	20.63	20.79
10	QPSK	50	0	23.58	23.52	23.51	23.57	23.63	20.65	20.47	20.55	20.65	20.65
10	16QAM	1	0	23.58	23.41	23.43	23.49	23.54	20.61	20.54	20.43	20.63	20.44
10	16QAM	1	25	23.49	23.45	23.45	23.48	23.56	20.58	20.45	20.55	20.54	20.58
10	16QAM	1	49	23.52	23.39	23.40	23.44	23.52	20.53	20.50	20.56	20.42	20.77
10	16QAM	25	0	22.59	22.53	22.51	22.57	22.62	20.63	20.56	20.54	20.64	20.69
10	16QAM	25	12	22.60	22.52	22.53	22.59	22.64	20.70	20.61	20.63	20.69	20.78
10	16QAM	25	25	22.56	22.48	22.47	22.55	22.59	20.73	20.48	20.63	20.65	20.83
10	16QAM	50	0	22.60	22.53	22.54	22.58	22.63	20.69	20.50	20.61	20.57	20.75
10	64QAM	1	0	22.27	22.18	22.18	22.24	22.31	20.30	20.23	20.22	20.26	20.23
10	64QAM	1	25	22.27	22.19	22.19	22.26	22.32	20.25	20.22	20.32	20.36	20.37
10	64QAM	1	49	22.22	22.17	22.13	22.21	22.31	20.19	20.20	20.20	20.12	20.56
10	64QAM	25	0	21.61	21.55	21.54	21.58	21.65	20.59	20.56	20.59	20.69	20.59
10	64QAM	25	12	21.64	21.56	21.56	21.62	21.66	20.68	20.51	20.59	20.60	20.74
10	64QAM	25	25	21.59	21.52	21.52	21.58	21.62	20.69	20.45	20.66	20.56	20.78
10	64QAM	50	0	21.59	21.52	21.52	21.57	21.62	20.67	20.48	20.62	20.67	20.74
Channel				39675	40148	40620	41093	41565	39675	40148	40620	41093	41565
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	2498.5	2545.8	2593	2640.30	2687.5
5	QPSK	1	0	24.46	24.48	24.46	24.46	24.54	20.49	20.44	20.37	20.35	20.45
5	QPSK	1	12	24.49	24.41	24.42	24.49	24.53	20.43	20.35	20.33	20.34	20.45
5	QPSK	1	24	24.47	24.42	24.44	24.50	24.51	20.47	20.32	20.37	20.32	20.47
5	QPSK	12	0	23.59	23.52	23.53	23.58	23.61	20.64	20.44	20.53	20.61	20.69
5	QPSK	12	7	23.65	23.56	23.57	23.63	23.66	20.58	20.52	20.59	20.58	20.68
5	QPSK	12	13	23.59	23.54	23.59	23.58	23.63	20.70	20.50	20.63	20.63	20.78
5	QPSK	25	0	23.58	23.52	23.53	23.58	23.63	20.57	20.56	20.54	20.63	20.63
5	16QAM	1	0	23.59	23.52	23.50	23.58	23.63	20.68	20.50	20.42	20.60	20.47
5	16QAM	1	12	23.57	23.51	23.49	23.57	23.63	20.53	20.50	20.52	20.52	20.66
5	16QAM	1	24	23.61	23.56	23.51	23.63	23.64	20.51	20.52	20.46	20.39	20.85
5	16QAM	12	0	22.58	22.52	22.51	22.57	22.60	20.66	20.58	20.53	20.64	20.67
5	16QAM	12	7	22.61	22.54	22.55	22.59	22.61	20.65	20.62	20.64	20.70	20.76
5	16QAM	12	13	22.58	22.50	22.53	22.55	22.65	20.65	20.52	20.66	20.58	20.80
5	16QAM	25	0	22.63	22.55	22.59	22.60	22.64	20.70	20.52	20.58	20.62	20.73
5	64QAM	1	0	22.33	22.27	22.32	22.33	22.41	20.35	20.29	20.21	20.27	20.22
5	64QAM	1	12	22.34	22.26	22.24	22.31	22.38	20.26	20.27	20.25	20.36	20.41
5	64QAM	1	24	22.40	22.29	22.29	22.39	22.42	20.26	20.24	20.26	20.16	20.54
5	64QAM	12	0	21.60	21.51	21.53	21.58	21.65	20.59	20.50	20.55	20.69	20.60
5	64QAM	12	7	21.63	21.56	21.55	21.62	21.69	20.58	20.56	20.64	20.63	20.69
5	64QAM	12	13	21.62	21.55	21.56	21.59	21.64	20.68	20.53	20.61	20.54	20.74
5	64QAM	25	0	21.63	21.56	21.55	21.64	21.69	20.69	20.54	20.60	20.62	20.74





Power Selection				Near body									
Transmit Antenna				Ant 0b					Ant 0c / Ant 1				
Max. Power				21.5					24.8				
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	2506	2549.5	2593	2636.5	2680
20	QPSK	1	0	19.57	19.50	19.54	19.52	19.61	24.60	24.49	24.45	24.45	24.43
20	QPSK	1	49	19.53	19.43	19.52	19.44	19.58	24.57	24.51	24.53	24.51	24.64
20	QPSK	1	99	19.52	19.49	19.53	19.39	19.60	24.61	24.52	24.54	24.52	24.78
20	QPSK	50	0	19.74	19.52	19.60	19.67	19.73	23.72	23.63	23.64	23.70	23.68
20	QPSK	50	24	19.70	19.57	19.74	19.65	19.78	23.72	23.61	23.67	23.70	23.73
20	QPSK	50	50	19.75	19.58	19.75	19.70	19.85	23.74	23.64	23.68	23.71	23.80
20	QPSK	100	0	19.72	19.58	19.66	19.75	19.80	23.74	23.60	23.65	23.69	23.75
20	16QAM	1	0	19.72	19.66	19.56	19.64	19.52	23.70	23.59	23.57	23.63	23.57
20	16QAM	1	49	19.62	19.55	19.58	19.67	19.76	23.65	23.55	23.62	23.64	23.70
20	16QAM	1	99	19.63	19.58	19.61	19.52	19.89	23.65	23.55	23.57	23.48	23.75
20	16QAM	50	0	19.77	19.66	19.65	19.77	19.77	22.76	22.66	22.65	22.73	22.71
20	16QAM	50	24	19.82	19.64	19.70	19.77	19.84	22.76	22.63	22.70	22.71	22.77
20	16QAM	50	50	19.78	19.66	19.76	19.67	19.91	22.78	22.59	22.70	22.68	22.80
20	16QAM	100	0	19.79	19.60	19.74	19.71	19.84	22.77	22.60	22.67	22.69	22.78
20	64QAM	1	0	19.46	19.34	19.35	19.37	19.36	22.48	22.36	22.29	22.42	22.32
20	64QAM	1	49	19.39	19.36	19.35	19.41	19.47	22.42	22.35	22.35	22.40	22.45
20	64QAM	1	99	19.36	19.24	19.34	19.22	19.60	22.37	22.30	22.33	22.25	22.61
20	64QAM	50	0	19.73	19.66	19.61	19.72	19.67	21.72	21.63	21.64	21.73	21.72
20	64QAM	50	24	19.68	19.69	19.71	19.71	19.78	21.73	21.63	21.68	21.72	21.76
20	64QAM	50	50	19.76	19.59	19.67	19.74	19.90	21.76	21.59	21.69	21.66	21.80
20	64QAM	100	0	19.74	19.63	19.70	19.78	19.86	21.74	21.60	21.65	21.69	21.78
Channel				39725	40173	40620	41068	41515	39725	40173	40620	41068	41515
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	2503.5	2548.3	2593	2637.8	2682.5
15	QPSK	1	0	19.55	19.64	19.60	19.50	19.55	24.61	24.45	24.50	24.58	24.48
15	QPSK	1	37	19.60	19.54	19.51	19.51	19.63	24.52	24.40	24.47	24.54	24.50
15	QPSK	1	74	19.62	19.58	19.59	19.52	19.68	24.61	24.45	24.54	24.51	24.71
15	QPSK	36	0	19.74	19.57	19.71	19.75	19.77	23.67	23.59	23.60	23.68	23.65
15	QPSK	36	20	19.65	19.55	19.71	19.63	19.71	23.71	23.61	23.66	23.69	23.73
15	QPSK	36	39	19.75	19.54	19.64	19.69	19.87	23.73	23.59	23.65	23.67	23.76
15	QPSK	75	0	19.66	19.51	19.69	19.68	19.78	23.74	23.60	23.65	23.68	23.73
15	16QAM	1	0	19.64	19.62	19.53	19.58	19.57	23.72	23.55	23.54	23.67	23.56
15	16QAM	1	37	19.62	19.56	19.59	19.67	19.70	23.67	23.58	23.54	23.61	23.68
15	16QAM	1	74	19.56	19.57	19.60	19.52	19.77	23.66	23.50	23.62	23.58	23.71
15	16QAM	36	0	19.71	19.54	19.65	19.65	19.75	22.65	22.56	22.58	22.64	22.63
15	16QAM	36	20	19.67	19.71	19.66	19.67	19.85	22.68	22.59	22.63	22.65	22.72
15	16QAM	36	39	19.83	19.58	19.62	19.70	19.85	22.69	22.54	22.62	22.61	22.75
15	16QAM	75	0	19.70	19.62	19.58	19.68	19.79	22.73	22.63	22.69	22.72	22.75
15	64QAM	1	0	19.59	19.51	19.53	19.52	19.53	22.48	22.29	22.28	22.42	22.35
15	64QAM	1	37	19.53	19.53	19.53	19.58	19.60	22.46	22.35	22.27	22.43	22.48
15	64QAM	1	74	19.57	19.53	19.56	19.55	19.76	22.43	22.27	22.34	22.34	22.56
15	64QAM	36	0	19.66	19.60	19.62	19.66	19.63	21.67	21.60	21.57	21.68	21.65
15	64QAM	36	20	19.76	19.65	19.65	19.67	19.74	21.72	21.61	21.65	21.67	21.74
15	64QAM	36	39	19.71	19.53	19.68	19.67	19.86	21.72	21.56	21.66	21.64	21.79
15	64QAM	75	0	19.62	19.55	19.61	19.74	19.68	21.75	21.59	21.65	21.69	21.74
Channel				39700	40160	40620	41080	41540	39700	40160	40620	41080	41540
Frequency (MHz)				2501	2547	2593	2639	2685	2501	2547	2593	2639	2685



**FCC SAR TEST REPORT**

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10	QPSK	1	0	19.57	19.60	19.58	19.50	19.55	24.42	24.31	24.32	24.35	24.39
10	QPSK	1	25	19.61	19.54	19.54	19.51	19.51	24.41	24.36	24.34	24.43	24.47
10	QPSK	1	49	19.51	19.59	19.53	19.57	19.65	24.47	24.37	24.39	24.43	24.50
10	QPSK	25	0	19.77	19.53	19.64	19.67	19.79	23.57	23.48	23.49	23.54	23.60
10	QPSK	25	12	19.66	19.57	19.64	19.64	19.67	23.58	23.50	23.52	23.57	23.61
10	QPSK	25	25	19.70	19.57	19.66	19.65	19.83	23.53	23.47	23.47	23.53	23.58
10	QPSK	50	0	19.65	19.52	19.58	19.68	19.75	23.58	23.52	23.51	23.57	23.63
10	16QAM	1	0	19.70	19.61	19.50	19.66	19.54	23.58	23.41	23.43	23.49	23.54
10	16QAM	1	25	19.67	19.55	19.55	19.62	19.58	23.49	23.45	23.45	23.48	23.56
10	16QAM	1	49	19.55	19.56	19.57	19.52	19.82	23.52	23.39	23.40	23.44	23.52
10	16QAM	25	0	19.64	19.66	19.64	19.65	19.72	22.59	22.53	22.51	22.57	22.62
10	16QAM	25	12	19.73	19.65	19.64	19.73	19.86	22.60	22.52	22.53	22.59	22.64
10	16QAM	25	25	19.79	19.53	19.70	19.72	19.86	22.56	22.48	22.47	22.55	22.59
10	16QAM	50	0	19.70	19.52	19.61	19.58	19.79	22.60	22.53	22.54	22.58	22.63
10	64QAM	1	0	19.65	19.53	19.60	19.63	19.55	22.27	22.18	22.18	22.24	22.31
10	64QAM	1	25	19.61	19.62	19.70	19.71	19.72	22.27	22.19	22.19	22.26	22.32
10	64QAM	1	49	19.53	19.52	19.54	19.50	19.70	22.22	22.17	22.13	22.21	22.31
10	64QAM	25	0	19.68	19.62	19.62	19.73	19.60	21.61	21.55	21.54	21.58	21.65
10	64QAM	25	12	19.72	19.60	19.62	19.66	19.74	21.64	21.56	21.56	21.62	21.66
10	64QAM	25	25	19.73	19.52	19.73	19.61	19.82	21.59	21.52	21.52	21.58	21.62
10	64QAM	50	0	19.77	19.57	19.71	19.73	19.74	21.59	21.52	21.52	21.57	21.62
Channel				39675	40148	40620	41093	41565	39675	40148	40620	41093	41565
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	2498.5	2545.8	2593	2640.30	2687.5
5	QPSK	1	0	19.65	19.61	19.57	19.55	19.57	24.46	24.48	24.46	24.46	24.54
5	QPSK	1	12	19.54	19.50	19.53	19.53	19.65	24.49	24.41	24.42	24.49	24.53
5	QPSK	1	24	19.59	19.52	19.53	19.52	19.67	24.47	24.42	24.44	24.50	24.51
5	QPSK	12	0	19.64	19.53	19.57	19.67	19.69	23.59	23.52	23.53	23.58	23.61
5	QPSK	12	7	19.59	19.57	19.68	19.61	19.77	23.65	23.56	23.57	23.63	23.66
5	QPSK	12	13	19.72	19.53	19.70	19.65	19.88	23.59	23.54	23.59	23.58	23.63
5	QPSK	25	0	19.67	19.56	19.57	19.72	19.72	23.58	23.52	23.53	23.58	23.63
5	16QAM	1	0	19.78	19.52	19.50	19.63	19.56	23.59	23.52	23.50	23.58	23.63
5	16QAM	1	12	19.53	19.60	19.54	19.57	19.69	23.57	23.51	23.49	23.57	23.63
5	16QAM	1	24	19.60	19.56	19.53	19.52	19.90	23.61	23.56	23.51	23.63	23.64
5	16QAM	12	0	19.67	19.60	19.57	19.64	19.73	22.58	22.52	22.51	22.57	22.60
5	16QAM	12	7	19.68	19.63	19.70	19.70	19.77	22.61	22.54	22.55	22.59	22.61
5	16QAM	12	13	19.72	19.62	19.69	19.60	19.87	22.58	22.50	22.53	22.55	22.65
5	16QAM	25	0	19.79	19.57	19.62	19.62	19.74	22.63	22.55	22.59	22.60	22.64
5	64QAM	1	0	19.64	19.54	19.52	19.53	19.55	22.33	22.27	22.32	22.33	22.41
5	64QAM	1	12	19.52	19.50	19.53	19.58	19.66	22.34	22.26	22.24	22.31	22.38
5	64QAM	1	24	19.52	19.50	19.52	19.52	19.80	22.40	22.29	22.29	22.39	22.42
5	64QAM	12	0	19.63	19.53	19.57	19.75	19.63	21.60	21.51	21.53	21.58	21.65
5	64QAM	12	7	19.58	19.56	19.64	19.69	19.74	21.63	21.56	21.55	21.62	21.69
5	64QAM	12	13	19.78	19.55	19.61	19.58	19.83	21.62	21.55	21.56	21.59	21.64
5	64QAM	25	0	19.69	19.60	19.66	19.70	19.80	21.63	21.56	21.55	21.64	21.69



<LTE Band 41 power class 2>

Power Selection				Head									
Transmit Antenna				Ant 0b					Ant 1				
Max. Power				26.8					23.5				
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	2506	2549.5	2593	2636.5	2680
20	QPSK	1	0	26.55	26.44	26.38	26.49	26.40	22.42	22.28	22.27	22.36	22.31
20	QPSK	1	49	26.51	26.44	26.46	26.48	26.56	22.31	22.28	22.31	22.36	22.41
20	QPSK	1	99	26.52	26.46	26.47	26.37	26.74	22.32	22.30	22.34	22.21	22.40
20	QPSK	50	0	25.69	25.65	25.65	25.73	25.63	22.57	22.49	22.52	22.62	22.56
20	QPSK	50	24	25.75	25.63	25.68	25.70	25.77	22.57	22.49	22.56	22.59	22.67
20	QPSK	50	50	25.77	25.59	25.69	25.66	24.77	22.60	22.45	22.55	22.55	22.73
20	QPSK	100	0	25.74	25.60	25.67	25.67	25.77	22.57	22.46	22.53	22.57	22.63
20	16QAM	1	0	25.75	25.74	25.71	25.80	25.72	22.65	22.51	22.54	22.66	22.57
20	16QAM	1	49	25.78	25.71	25.73	25.77	25.77	22.57	22.49	22.57	22.59	22.66
20	16QAM	1	99	25.80	25.74	25.73	25.63	25.78	22.56	22.52	22.56	22.46	22.88
20	16QAM	50	0	24.74	24.66	24.69	24.77	24.77	22.59	22.51	22.53	22.64	22.61
20	16QAM	50	24	24.76	24.64	24.72	24.75	24.80	22.60	22.51	22.59	22.62	22.67
20	16QAM	50	50	24.79	24.61	24.74	24.68	24.74	22.62	22.47	22.60	22.43	22.75
20	16QAM	100	0	24.75	24.62	24.68	24.70	24.71	22.56	22.46	22.56	22.60	22.65
20	64QAM	1	0	24.71	24.63	24.61	24.57	24.65	22.57	22.49	22.45	22.62	22.46
20	64QAM	1	49	24.69	24.63	24.66	24.62	24.68	22.50	22.46	22.51	22.54	22.64
20	64QAM	1	99	24.68	24.65	24.67	24.59	24.43	22.49	22.50	22.49	22.45	22.80
20	64QAM	50	0	23.75	23.64	23.66	23.69	23.73	22.59	22.52	22.55	22.65	22.59
20	64QAM	50	24	23.74	23.63	23.71	23.63	23.79	22.59	22.50	22.59	22.62	22.67
20	64QAM	50	50	23.79	23.61	23.72	23.54	23.61	22.61	22.49	22.59	22.60	22.76
20	64QAM	100	0	23.75	23.62	23.70	23.56	23.66	22.58	22.50	22.56	22.62	22.69
Channel				39725	40173	39765	39725	40173	39725	40173	39765	39725	40173
Frequency (MHz)				2503.5	2548.3	2507.5	2503.5	2548.3	2503.5	2548.3	2507.5	2503.5	2548.3
15	QPSK	1	0	26.57	26.47	26.46	26.57	26.48	22.37	22.28	22.20	22.30	22.28
15	QPSK	1	37	26.58	26.51	26.54	26.57	26.59	22.29	22.27	22.29	22.32	22.31
15	QPSK	1	74	26.58	26.44	26.53	26.49	26.72	22.29	22.22	22.32	22.17	22.37
15	QPSK	36	0	25.69	25.64	25.63	25.73	25.70	22.49	22.44	22.44	22.56	22.55
15	QPSK	36	20	25.73	25.65	25.70	25.70	25.79	22.52	22.46	22.52	22.50	22.63
15	QPSK	36	39	25.71	25.59	25.69	25.67	25.80	22.58	22.38	22.47	22.53	22.70
15	QPSK	75	0	25.70	25.64	25.66	25.69	25.75	22.51	22.43	22.44	22.56	22.55
15	16QAM	1	0	25.75	25.70	25.69	25.75	25.73	22.62	22.41	22.48	22.66	22.53
15	16QAM	1	37	25.75	25.78	25.77	25.72	25.71	22.57	22.47	22.51	22.56	22.64
15	16QAM	1	74	25.77	25.64	25.75	25.71	25.72	22.54	22.43	22.53	22.46	22.85
15	16QAM	36	0	24.68	24.62	24.60	24.71	24.67	22.51	22.49	22.46	22.62	22.52
15	16QAM	36	20	24.71	24.65	24.70	24.72	24.79	22.57	22.42	22.49	22.55	22.67
15	16QAM	36	39	24.69	24.59	24.67	24.66	24.79	22.55	22.39	22.55	22.42	22.67
15	16QAM	75	0	24.73	24.65	24.71	24.74	24.79	22.52	22.37	22.49	22.60	22.65
15	64QAM	1	0	24.69	24.60	24.61	24.56	24.61	22.57	22.49	22.45	22.58	22.38
15	64QAM	1	37	24.70	24.70	24.66	24.59	24.70	22.45	22.40	22.49	22.47	22.54
15	64QAM	1	74	24.71	24.57	24.68	24.60	24.52	22.48	22.45	22.42	22.38	22.78
15	64QAM	36	0	23.70	23.63	23.64	23.69	23.73	22.57	22.49	22.54	22.65	22.49
15	64QAM	36	20	23.75	23.68	23.71	23.68	23.79	22.53	22.41	22.56	22.62	22.64
15	64QAM	36	39	23.73	23.61	23.70	23.61	23.68	22.53	22.49	22.55	22.54	22.75
15	64QAM	75	0	23.72	23.65	23.68	23.55	23.67	22.53	22.43	22.49	22.52	22.66
Channel				39700	40160	39740	39700	40160	39700	40160	39740	39700	40160
Frequency (MHz)				2501	2547	2505	2501	2547	2501	2547	2505	2501	2547



**FCC SAR TEST REPORT**

**Report No. : FA8N0616-06A**

10	QPSK	1	0	26.39	26.32	26.33	26.34	26.41	22.32	22.19	22.18	22.35	22.24
10	QPSK	1	25	26.38	26.31	26.37	26.38	26.43	22.30	22.20	22.26	22.35	22.33
10	QPSK	1	49	26.37	26.34	26.37	26.39	26.42	22.25	22.26	22.29	22.21	22.36
10	QPSK	25	0	25.59	25.49	25.52	25.58	25.64	22.50	22.43	22.50	22.60	22.52
10	QPSK	25	12	25.58	25.50	25.58	25.61	25.66	22.57	22.41	22.47	22.58	22.66
10	QPSK	25	25	25.56	25.51	25.53	25.59	25.61	22.58	22.40	22.50	22.46	22.72
10	QPSK	50	0	25.58	25.52	25.54	25.60	25.64	22.51	22.37	22.43	22.48	22.53
10	16QAM	1	0	25.67	25.63	25.59	25.63	25.70	22.63	22.41	22.45	22.64	22.55
10	16QAM	1	25	25.63	25.59	25.61	25.63	25.71	22.48	22.40	22.54	22.59	22.57
10	16QAM	1	49	25.63	25.57	25.60	25.65	25.71	22.51	22.49	22.54	22.42	22.79
10	16QAM	25	0	24.65	24.58	24.57	24.64	24.71	22.50	22.43	22.46	22.58	22.52
10	16QAM	25	12	24.66	24.60	24.61	24.62	24.67	22.50	22.42	22.59	22.52	22.59
10	16QAM	25	25	24.61	24.53	24.60	24.62	24.68	22.58	22.43	22.59	22.36	22.74
10	16QAM	50	0	24.61	24.57	24.59	24.65	24.67	22.56	22.43	22.54	22.54	22.58
10	64QAM	1	0	24.61	24.50	24.52	24.57	24.63	22.56	22.41	22.44	22.57	22.39
10	64QAM	1	25	24.55	24.53	24.53	24.61	24.64	22.46	22.39	22.50	22.46	22.58
10	64QAM	1	49	24.52	24.51	24.51	24.57	24.52	22.47	22.44	22.42	22.37	22.72
10	64QAM	25	0	23.69	23.62	23.63	23.65	23.73	22.53	22.50	22.54	22.56	22.54
10	64QAM	25	12	23.67	23.63	23.65	23.70	23.75	22.55	22.47	22.50	22.62	22.65
10	64QAM	25	25	23.62	23.59	23.62	23.70	23.70	22.53	22.42	22.52	22.59	22.66
10	64QAM	50	0	23.61	23.56	23.59	23.59	23.67	22.52	22.46	22.55	22.54	22.64
Channel				39675	40148	39715	39675	40148	39675	40148	39715	39675	40148
Frequency (MHz)				2498.5	2545.8	2502.5	2498.5	2545.8	2498.5	2545.8	2502.5	2498.5	2545.8
5	QPSK	1	0	26.44	26.42	26.41	26.48	26.52	22.32	22.20	22.26	22.35	22.22
5	QPSK	1	12	26.42	26.37	26.38	26.42	26.49	22.27	22.27	22.24	22.26	22.31
5	QPSK	1	24	26.40	26.39	26.38	26.45	26.48	22.24	22.29	22.24	22.16	22.35
5	QPSK	12	0	25.64	25.55	25.56	25.62	25.66	22.48	22.49	22.52	22.62	22.47
5	QPSK	12	7	25.67	25.60	25.60	25.63	25.71	22.53	22.43	22.53	22.54	22.66
5	QPSK	12	13	25.63	25.58	25.56	25.67	25.69	22.56	22.43	22.51	22.50	22.63
5	QPSK	25	0	25.63	25.59	25.54	25.58	25.65	22.51	22.44	22.47	22.53	22.60
5	16QAM	1	0	25.66	25.65	25.62	25.69	25.72	22.55	22.46	22.52	22.64	22.48
5	16QAM	1	12	25.74	25.65	25.64	25.69	25.78	22.55	22.39	22.56	22.58	22.59
5	16QAM	1	24	25.74	25.65	25.62	25.71	25.79	22.55	22.48	22.53	22.40	22.87
5	16QAM	12	0	24.66	24.60	24.61	24.66	24.69	22.49	22.44	22.45	22.59	22.55
5	16QAM	12	7	24.70	24.63	24.65	24.71	24.76	22.55	22.47	22.54	22.57	22.60
5	16QAM	12	13	24.67	24.63	24.63	24.65	24.70	22.58	22.37	22.58	22.35	22.69
5	16QAM	25	0	24.68	24.64	24.59	24.68	24.73	22.50	22.40	22.48	22.58	22.61
5	64QAM	1	0	24.49	24.61	24.61	24.42	24.60	22.48	22.45	22.39	22.58	22.39
5	64QAM	1	12	24.61	24.57	24.59	24.63	24.63	22.45	22.43	22.48	22.50	22.63
5	64QAM	1	24	24.62	24.59	24.59	24.62	24.57	22.42	22.41	22.49	22.36	22.73
5	64QAM	12	0	23.59	23.63	23.62	23.69	23.70	22.51	22.49	22.45	22.60	22.55
5	64QAM	12	7	23.73	23.62	23.67	23.69	23.67	22.51	22.43	22.55	22.59	22.61
5	64QAM	12	13	23.68	23.61	23.66	23.70	23.64	22.55	22.41	22.56	22.50	22.75
5	64QAM	25	0	23.68	23.66	23.63	23.70	23.68	22.57	22.42	22.46	22.57	22.64



Power Selection				Near body									
Transmit Antenna				Ant Ob					Ant 1				
Max. Power				26.8					26.8				
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	2506	2549.5	2593	2636.5	2680
20	QPSK	1	0	26.55	26.44	26.38	26.49	26.40	26.55	26.44	26.38	26.49	26.40
20	QPSK	1	49	26.51	26.44	26.46	26.48	26.56	26.51	26.44	26.46	26.48	26.56
20	QPSK	1	99	26.52	26.46	26.47	26.37	26.74	26.52	26.46	26.47	26.37	26.74
20	QPSK	50	0	25.69	25.65	25.65	25.73	25.63	25.69	25.65	25.65	25.73	25.63
20	QPSK	50	24	25.75	25.63	25.68	25.70	25.77	25.75	25.63	25.68	25.70	25.77
20	QPSK	50	50	25.77	25.59	25.69	25.66	24.77	25.77	25.59	25.69	25.66	24.77
20	QPSK	100	0	25.74	25.60	25.67	25.67	25.77	25.74	25.60	25.67	25.67	25.77
20	16QAM	1	0	25.75	25.74	25.71	25.80	25.72	25.75	25.74	25.71	25.80	25.72
20	16QAM	1	49	25.78	25.71	25.73	25.77	25.77	25.78	25.71	25.73	25.77	25.77
20	16QAM	1	99	25.80	25.74	25.73	25.63	25.78	25.80	25.74	25.73	25.63	25.78
20	16QAM	50	0	24.74	24.66	24.69	24.77	24.77	24.74	24.66	24.69	24.77	24.77
20	16QAM	50	24	24.76	24.64	24.72	24.75	24.80	24.76	24.64	24.72	24.75	24.80
20	16QAM	50	50	24.79	24.61	24.74	24.68	24.74	24.79	24.61	24.74	24.68	24.74
20	16QAM	100	0	24.75	24.62	24.68	24.70	24.71	24.75	24.62	24.68	24.70	24.71
20	64QAM	1	0	24.71	24.63	24.61	24.57	24.65	24.71	24.63	24.61	24.57	24.65
20	64QAM	1	49	24.69	24.63	24.66	24.62	24.68	24.69	24.63	24.66	24.62	24.68
20	64QAM	1	99	24.68	24.65	24.67	24.59	24.43	24.68	24.65	24.67	24.59	24.43
20	64QAM	50	0	23.75	23.64	23.66	23.69	23.73	23.75	23.64	23.66	23.69	23.73
20	64QAM	50	24	23.74	23.63	23.71	23.63	23.79	23.74	23.63	23.71	23.63	23.79
20	64QAM	50	50	23.79	23.61	23.72	23.54	23.61	23.79	23.61	23.72	23.54	23.61
20	64QAM	100	0	23.75	23.62	23.70	23.56	23.66	23.75	23.62	23.70	23.56	23.66
Channel				39725	40173	40620	41068	41515	39725	40173	40620	41068	41515
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	2503.5	2548.3	2593	2637.8	2682.5
15	QPSK	1	0	26.57	26.47	26.46	26.57	26.48	26.57	26.47	26.46	26.57	26.48
15	QPSK	1	37	26.58	26.51	26.54	26.57	26.59	26.58	26.51	26.54	26.57	26.59
15	QPSK	1	74	26.58	26.44	26.53	26.49	26.72	26.58	26.44	26.53	26.49	26.72
15	QPSK	36	0	25.69	25.64	25.63	25.73	25.70	25.69	25.64	25.63	25.73	25.70
15	QPSK	36	20	25.73	25.65	25.70	25.70	25.79	25.73	25.65	25.70	25.70	25.79
15	QPSK	36	39	25.71	25.59	25.69	25.67	25.80	25.71	25.59	25.69	25.67	25.80
15	QPSK	75	0	25.70	25.64	25.66	25.69	25.75	25.70	25.64	25.66	25.69	25.75
15	16QAM	1	0	25.75	25.70	25.69	25.75	25.73	25.75	25.70	25.69	25.75	25.73
15	16QAM	1	37	25.75	25.78	25.77	25.72	25.71	25.75	25.78	25.77	25.72	25.71
15	16QAM	1	74	25.77	25.64	25.75	25.71	25.72	25.77	25.64	25.75	25.71	25.72
15	16QAM	36	0	24.68	24.62	24.60	24.71	24.67	24.68	24.62	24.60	24.71	24.67
15	16QAM	36	20	24.71	24.65	24.70	24.72	24.79	24.71	24.65	24.70	24.72	24.79
15	16QAM	36	39	24.69	24.59	24.67	24.66	24.79	24.69	24.59	24.67	24.66	24.79
15	16QAM	75	0	24.73	24.65	24.71	24.74	24.79	24.73	24.65	24.71	24.74	24.79
15	64QAM	1	0	24.69	24.60	24.61	24.56	24.61	24.69	24.60	24.61	24.56	24.61
15	64QAM	1	37	24.70	24.70	24.66	24.59	24.70	24.70	24.70	24.66	24.59	24.70
15	64QAM	1	74	24.71	24.57	24.68	24.60	24.52	24.71	24.57	24.68	24.60	24.52
15	64QAM	36	0	23.70	23.63	23.64	23.69	23.73	23.70	23.63	23.64	23.69	23.73
15	64QAM	36	20	23.75	23.68	23.71	23.68	23.79	23.75	23.68	23.71	23.68	23.79
15	64QAM	36	39	23.73	23.61	23.70	23.61	23.68	23.73	23.61	23.70	23.61	23.68
15	64QAM	75	0	23.72	23.65	23.68	23.55	23.67	23.72	23.65	23.68	23.55	23.67
Channel				39700	40160	40620	41080	41540	39700	40160	40620	41080	41540
Frequency (MHz)				2501	2547	2593	2639	2685	2501	2547	2593	2639	2685



**FCC SAR TEST REPORT**

**Report No. : FA8N0616-06A**

10	QPSK	1	0	26.39	26.32	26.33	26.34	26.41	26.39	26.32	26.33	26.34	26.41
10	QPSK	1	25	26.38	26.31	26.37	26.38	26.43	26.38	26.31	26.37	26.38	26.43
10	QPSK	1	49	26.37	26.34	26.37	26.39	26.42	26.37	26.34	26.37	26.39	26.42
10	QPSK	25	0	25.59	25.49	25.52	25.58	25.64	25.59	25.49	25.52	25.58	25.64
10	QPSK	25	12	25.58	25.50	25.58	25.61	25.66	25.58	25.50	25.58	25.61	25.66
10	QPSK	25	25	25.56	25.51	25.53	25.59	25.61	25.56	25.51	25.53	25.59	25.61
10	QPSK	50	0	25.58	25.52	25.54	25.60	25.64	25.58	25.52	25.54	25.60	25.64
10	16QAM	1	0	25.67	25.63	25.59	25.63	25.70	25.67	25.63	25.59	25.63	25.70
10	16QAM	1	25	25.63	25.59	25.61	25.63	25.71	25.63	25.59	25.61	25.63	25.71
10	16QAM	1	49	25.63	25.57	25.60	25.65	25.71	25.63	25.57	25.60	25.65	25.71
10	16QAM	25	0	24.65	24.58	24.57	24.64	24.71	24.65	24.58	24.57	24.64	24.71
10	16QAM	25	12	24.66	24.60	24.61	24.62	24.67	24.66	24.60	24.61	24.62	24.67
10	16QAM	25	25	24.61	24.53	24.60	24.62	24.68	24.61	24.53	24.60	24.62	24.68
10	16QAM	50	0	24.61	24.57	24.59	24.65	24.67	24.61	24.57	24.59	24.65	24.67
10	64QAM	1	0	24.61	24.50	24.52	24.57	24.63	24.61	24.50	24.52	24.57	24.63
10	64QAM	1	25	24.55	24.53	24.53	24.61	24.64	24.55	24.53	24.53	24.61	24.64
10	64QAM	1	49	24.52	24.51	24.51	24.57	24.52	24.52	24.51	24.51	24.57	24.52
10	64QAM	25	0	23.69	23.62	23.63	23.65	23.73	23.69	23.62	23.63	23.65	23.73
10	64QAM	25	12	23.67	23.63	23.65	23.70	23.75	23.67	23.63	23.65	23.70	23.75
10	64QAM	25	25	23.62	23.59	23.62	23.70	23.70	23.62	23.59	23.62	23.70	23.70
10	64QAM	50	0	23.61	23.56	23.59	23.59	23.67	23.61	23.56	23.59	23.59	23.67
Channel				39675	40148	40620	41093	41565	39675	40148	40620	41093	41565
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	2498.5	2545.8	2593	2640.30	2687.5
5	QPSK	1	0	26.44	26.42	26.41	26.48	26.52	26.44	26.42	26.41	26.48	26.52
5	QPSK	1	12	26.42	26.37	26.38	26.42	26.49	26.42	26.37	26.38	26.42	26.49
5	QPSK	1	24	26.40	26.39	26.38	26.45	26.48	26.40	26.39	26.38	26.45	26.48
5	QPSK	12	0	25.64	25.55	25.56	25.62	25.66	25.64	25.55	25.56	25.62	25.66
5	QPSK	12	7	25.67	25.60	25.60	25.63	25.71	25.67	25.60	25.60	25.63	25.71
5	QPSK	12	13	25.63	25.58	25.56	25.67	25.69	25.63	25.58	25.56	25.67	25.69
5	QPSK	25	0	25.63	25.59	25.54	25.58	25.65	25.63	25.59	25.54	25.58	25.65
5	16QAM	1	0	25.66	25.65	25.62	25.69	25.72	25.66	25.65	25.62	25.69	25.72
5	16QAM	1	12	25.74	25.65	25.64	25.69	25.78	25.74	25.65	25.64	25.69	25.78
5	16QAM	1	24	25.74	25.65	25.62	25.71	25.79	25.74	25.65	25.62	25.71	25.79
5	16QAM	12	0	24.66	24.60	24.61	24.66	24.69	24.66	24.60	24.61	24.66	24.69
5	16QAM	12	7	24.70	24.63	24.65	24.71	24.76	24.70	24.63	24.65	24.71	24.76
5	16QAM	12	13	24.67	24.63	24.63	24.65	24.70	24.67	24.63	24.63	24.65	24.70
5	16QAM	25	0	24.68	24.64	24.59	24.68	24.73	24.68	24.64	24.59	24.68	24.73
5	64QAM	1	0	24.49	24.61	24.61	24.42	24.60	24.49	24.61	24.61	24.42	24.60
5	64QAM	1	12	24.61	24.57	24.59	24.63	24.63	24.61	24.57	24.59	24.63	24.63
5	64QAM	1	24	24.62	24.59	24.59	24.62	24.57	24.62	24.59	24.59	24.62	24.57
5	64QAM	12	0	23.59	23.63	23.62	23.69	23.70	23.59	23.63	23.62	23.69	23.70
5	64QAM	12	7	23.73	23.62	23.67	23.69	23.67	23.73	23.62	23.67	23.69	23.67
5	64QAM	12	13	23.68	23.61	23.66	23.70	23.64	23.68	23.61	23.66	23.70	23.64
5	64QAM	25	0	23.68	23.66	23.63	23.70	23.68	23.68	23.66	23.63	23.70	23.68

**<WLAN Conducted Power>****General Note:**

1. For each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode.
2. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is  $< 1.6\text{W/kg}$  and SAR peak to location ratio  $\leq 0.04$ , no additional SAR measurements for MIMO.
3. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
4. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
5. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
6. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
  - a. When the reported SAR of the initial test position is  $\leq 0.4\text{ W/kg}$ , further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
  - b. When the reported SAR of the test position is  $> 0.4\text{ W/kg}$ , SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is  $\leq 0.8\text{ W/kg}$  or all required test position are tested.
  - c. For all positions/configurations, when the reported SAR is  $> 0.8\text{ W/kg}$ , SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is  $\leq 1.2\text{ W/kg}$  or all required channels are tested.



<2.4GHz WLAN>

Power Selection				Head			Head			Head						
Transmit Antenna				Ant 2			Ant 3			Ant 2+3						
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 3 Average power (dBm)	Ant 3 Tune-Up Limit	Ant 2+3 Average power (dBm)	Ant 2+3 Tune-Up Limit	Duty Cycle %	
2.4GHz WLAN	802.11b 1Mbps	1	2412	13.85	14.00	99.52	14.44	14.50	99.28	15.54	16.00	13.86	15.00	17.72	18.5	99.20
		6	2437	13.61	14.00		14.33	14.50		15.51	16.00	13.80	15.00	17.74	18.5	
		11	2462	13.76	14.00		14.48	14.50		15.31	16.00	13.65	15.00	17.71	18.5	
		12	2467	13.78	14.00		14.24	14.50		15.51	16.00	13.61	15.00	17.76	18.5	
		13	2472	13.76	14.00		13.59	14.50		14.00	14.50	14.20	14.50	17.11	17.5	
	802.11g 6Mbps	1	2412	13.47	14.00	98.33	14.10	14.50	98.33	15.30	16.00	13.70	15.00	17.52	18.5	98.33
		6	2437	13.60	14.00		14.39	14.50		15.20	16.00	13.56	15.00	17.40	18.5	
		11	2462	13.69	14.00		14.39	14.50		15.22	16.00	13.64	15.00	17.59	18.5	
		12	2467	13.62	14.00		13.60	14.00		13.60	14.00	13.60	14.00	16.61	17.0	
		13	2472	1.75	2.00		1.80	2.00		1.80	2.00	1.70	2.00	4.76	5.0	
	802.11n-HT20 MCS0	1	2412	13.54	14.00	98.21	14.32	14.50	98.21	15.33	16.00	13.40	15.00	17.52	18.5	98.21
		6	2437	13.61	14.00		14.40	14.50		15.49	16.00	13.39	15.00	17.64	18.5	
		11	2462	13.53	14.00		14.37	14.50		15.18	16.00	13.65	15.00	17.40	18.5	
		12	2467	13.60	14.00		14.15	14.50		15.00	15.50	13.47	15.00	17.31	18.3	
		13	2472	1.80	2.00		1.90	2.00		1.90	2.00	1.80	2.00	4.86	5.0	
	802.11ac-VHT20 MCS0	1	2412	13.60	14.00	97.87	14.23	14.50	97.17	15.30	16.00	13.65	15.00	17.66	18.5	97.61
		6	2437	13.43	14.00		14.20	14.50		15.69	16.00	13.58	15.00	17.72	18.5	
		11	2462	13.62	14.00		14.22	14.50		15.30	16.00	13.52	15.00	17.51	18.5	
		12	2467	13.44	14.00		14.32	14.50		14.90	15.50	13.68	15.00	17.34	18.3	
		13	2472	1.74	2.00		1.84	2.00		1.80	2.00	1.70	2.00	4.76	5.0	

Power Selection				Near body			Near body			Near body						
Transmit Antenna				Ant 2			Ant 3			Ant 2+3						
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 3 Average power (dBm)	Ant 3 Tune-Up Limit	Ant 2+3 Average power (dBm)	Ant 2+3 Tune-Up Limit	Duty Cycle %	
2.4GHz WLAN	802.11b 1Mbps	1	2412	22.80	23.00	99.12	22.70	23.00	99.28	22.90	23.00	22.90	23.00	25.91	26.00	99.20
		6	2437	22.90	23.00		22.90	23.00		22.90	23.00	22.90	23.00	25.91	26.00	
		11	2462	22.40	22.50		22.20	23.00		22.10	23.00	21.90	23.00	25.01	26.00	
		12	2467	17.80	18.00		17.80	18.00		17.60	18.00	17.70	18.00	20.66	21.00	
		13	2472	13.90	14.50		14.10	14.50		14.00	14.50	14.20	14.50	17.11	17.50	
	802.11g 6Mbps	1	2412	19.80	20.00	98.33	19.90	20.00	98.33	20.00	20.50	19.60	20.50	22.81	23.50	98.33
		6	2437	22.20	22.50		22.10	22.50		22.40	22.50	22.00	22.50	25.21	25.50	
		11	2462	18.50	19.00		18.80	19.00		18.70	19.00	18.50	19.00	21.61	22.00	
		12	2467	13.60	14.00		13.60	14.00		13.60	14.00	13.60	14.00	16.61	17.00	
		13	2472	1.70	2.00		1.80	2.00		1.80	2.00	1.70	2.00	4.76	5.00	
	802.11n-HT20 MCS0	1	2412	19.30	20.00	98.22	19.40	20.00	97.96	19.40	20.00	19.20	20.00	22.31	23.00	98.21
		6	2437	22.10	22.50		22.00	22.50		22.10	22.50	22.00	22.50	25.06	25.50	
		11	2462	17.90	18.50		18.20	18.50		18.30	18.50	18.10	18.50	21.21	21.50	
		12	2467	15.20	15.50		15.30	15.50		15.00	15.50	15.30	15.50	18.16	18.50	
		13	2472	1.90	2.00		1.90	2.00		1.90	2.00	1.80	2.00	4.86	5.00	
	802.11ac-VHT20 MCS0	1	2412	19.30	19.50	98.22	19.40	19.50	98.22	19.30	19.50	19.10	19.50	22.21	22.50	97.97
		6	2437	22.00	22.50		22.00	22.50		22.00	22.50	21.90	22.50	24.96	25.50	
		11	2462	17.90	18.50		18.10	18.50		18.20	18.50	18.00	18.50	21.11	21.50	
		12	2467	14.90	15.50		15.00	15.50		14.90	15.50	15.20	15.50	18.06	18.50	
		13	2472	1.70	2.00		1.80	2.00		1.80	2.00	1.70	2.00	4.76	5.00	





<5GHz WLAN>

Power Selection				Head			Head			Head						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps		36	5180	12.11	13.50	97.58	14.36	14.50	97.35	10.45	12.00	14.26	14.50	15.75	16.4
40			5200	12.07	13.50	14.34		14.50	10.49		12.00	14.23	14.50	15.70	16.4	
44			5220	12.21	13.50	14.04		14.50	10.48		12.00	14.26	14.50	15.79	16.4	
48			5240	12.20	13.50	14.27		14.50	10.44		12.00	14.16	14.50	15.71	16.4	
802.11n-HT20 MCS0		36	5180	12.11	13.50	97.43	14.28	14.50	97.41	10.51	12.00	14.29	14.50	15.63	16.4	97.83
		40	5200	12.12	13.50		14.44	14.50		10.42	12.00	14.25	14.50	15.79	16.4	
		44	5220	12.22	13.50		14.12	14.50		10.36	12.00	14.26	14.50	15.64	16.4	
		48	5240	12.21	13.50		14.00	14.50		10.54	12.00	14.21	14.50	15.86	16.4	
802.11n-HT40 MCS0		38	5190	12.35	13.50	95.45	14.48	14.50	95.45	10.48	12.00	14.18	14.50	15.82	16.4	95.45
		46	5230	12.38	13.50		14.30	14.50		10.65	12.00	14.25	14.50	15.85	16.4	
802.11ac-VHT20 MCS0		36	5180	12.21	13.50	97.88	14.13	14.50	97.98	10.36	12.00	14.22	14.50	15.77	16.4	97.00
		40	5200	12.02	13.50		14.23	14.50		10.49	12.00	14.28	14.50	15.87	16.4	
		44	5220	12.06	13.50		14.19	14.50		10.49	12.00	14.40	14.50	15.89	16.4	
		48	5240	12.04	13.50		14.17	14.50		10.61	12.00	14.13	14.50	15.64	16.4	
802.11ac-VHT40 MCS0		38	5190	12.14	13.50	95.98	14.32	14.50	95.98	10.52	12.00	14.20	14.50	15.80	16.4	95.48
		46	5230	12.00	13.50		14.22	14.50		10.52	12.00	14.27	14.50	15.69	16.4	
802.11ac-VHT80 MCS0		42	5210	12.26	13.50	91.67	14.31	14.50	90.87	10.42	12.00	14.13	14.50	15.87	16.4	92.15

Power Selection				Near body			Near body			Near body						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps		36	5180	18.30	19.00	98.10	18.30	19.00	98.10	18.50	19.00	17.90	19.00	21.22	22.00
40			5200	18.20	19.00	18.20		19.00	18.30		19.00	17.80	19.00	21.07	22.00	
44			5220	18.30	19.00	18.30		19.00	18.70		19.00	18.00	19.00	21.37	22.00	
48			5240	18.20	18.50	18.30		18.50	18.50		18.50	18.00	18.50	21.27	21.50	
802.11n-HT20 MCS0		36	5180	18.30	19.00	98.47	18.60	19.00	97.96	19.00	19.00	18.40	19.00	21.72	22.00	97.96
		40	5200	18.20	19.00		18.50	19.00		18.80	19.00	18.10	19.00	21.47	22.00	
		44	5220	18.20	19.00		18.50	19.00		18.90	19.00	18.30	19.00	21.62	22.00	
		48	5240	18.20	19.00		18.60	19.00		18.70	19.00	18.30	19.00	21.51	22.00	
802.11n-HT40 MCS0		38	5190	15.60	16.00	96.94	15.50	16.00	96.94	15.80	16.00	15.20	16.00	18.52	19.00	95.96
		46	5230	20.60	21.00		20.60	21.00		20.90	21.00	20.10	21.00	23.53	24.00	
802.11ac-VHT20 MCS0		36	5180	18.20	19.00	97.97	18.40	19.00	97.97	18.40	19.00	18.00	19.00	21.21	22.00	97.97
		40	5200	18.10	19.00		18.30	19.00		18.20	19.00	17.80	19.00	21.01	22.00	
		44	5220	18.10	19.00		18.30	19.00		18.50	19.00	17.90	19.00	21.12	22.00	
		48	5240	18.10	19.00		18.20	19.00		18.40	19.00	18.00	19.00	21.21	22.00	
802.11ac-VHT40 MCS0		38	5190	15.10	16.00	95.96	15.40	16.00	95.96	15.80	16.00	15.10	16.00	18.47	19.00	95.96
		46	5230	20.30	21.00		20.60	21.00		20.90	21.00	20.00	21.00	23.48	24.00	
802.11ac-VHT80 MCS0		42	5210	14.20	15.00	92.00	14.40	15.00	93.00	14.40	15.00	14.20	15.00	17.31	18.00	93.00



Power Selection				Head			Head			Head						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps		52	5260	12.03	13.50	97.58	14.07	14.50	97.35	10.62	12.00	14.25	14.50	15.73	16.4
56			5280	12.14	13.50	14.05		14.50	10.59		12.00	14.39	14.50	15.78	16.4	
60			5300	12.09	13.50	14.04		14.50	10.55		12.00	14.16	14.50	15.76	16.4	
64			5320	12.23	13.50	14.02		14.50	10.51		12.00	14.35	14.50	15.92	16.4	
802.11n-HT20 MCS0		52	5260	12.33	13.50	97.43	14.13	14.50	97.41	10.64	12.00	14.38	14.50	15.90	16.4	97.83
		56	5280	12.21	13.50		14.19	14.50		10.68	12.00	14.37	14.50	15.86	16.4	
		60	5300	12.00	13.50		14.33	14.50		10.53	12.00	14.29	14.50	15.86	16.4	
		64	5320	12.12	13.50		14.08	14.50		10.55	12.00	14.25	14.50	15.64	16.4	
802.11n-HT40 MCS0		54	5270	12.48	13.50	95.45	14.29	14.50	95.45	10.54	12.00	14.30	14.50	15.67	16.4	95.45
		62	5310	12.26	13.50		14.14	14.50		10.63	12.00	14.22	14.50	15.67	16.4	
802.11ac-VHT20 MCS0		52	5260	12.32	13.50	97.88	14.15	14.50	97.98	10.52	12.00	14.11	14.50	15.77	16.4	97.00
		56	5280	12.04	13.50		14.15	14.50		10.57	12.00	14.15	14.50	15.81	16.4	
		60	5300	12.08	13.50		14.04	14.50		10.68	12.00	14.09	14.50	15.73	16.4	
		64	5320	12.30	13.50		14.35	14.50		10.66	12.00	14.18	14.50	15.88	16.4	
802.11ac-VHT40 MCS0		54	5270	12.14	13.50	95.98	14.37	14.50	95.98	10.59	12.00	14.27	14.50	15.97	16.4	95.48
		62	5310	12.16	13.50		14.19	14.50		10.52	12.00	14.13	14.50	15.68	16.4	
802.11ac-VHT80 MCS0		58	5290	11.97	13.50	91.67	14.31	14.50	90.87	10.60	12.00	14.27	14.50	16.00	16.4	92.15

Power Selection				Near body			Near body			Near body						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps		52	5260	17.90	18.50	98.10	18.30	18.50	98.10	18.40	18.50	17.90	18.50	21.17	21.50
56			5280	18.00	19.00	18.30		19.00	18.30		19.00	18.00	19.00	21.16	22.00	
60			5300	18.30	19.00	18.50		19.00	18.70		19.00	18.20	19.00	21.27	22.00	
64			5320	18.00	19.00	17.60		19.00	18.10		19.00	17.60	19.00	20.87	22.00	
802.11n-HT20 MCS0		52	5260	18.30	19.00	98.47	18.50	19.00	97.96	18.90	19.00	18.30	19.00	21.62	22.00	97.96
		56	5280	18.20	19.00		18.50	19.00		18.80	19.00	18.20	19.00	21.52	22.00	
		60	5300	18.30	19.00		18.70	19.00		18.90	19.00	18.30	19.00	21.62	22.00	
		64	5320	18.40	19.00		18.50	19.00		18.50	19.00	18.10	19.00	21.31	22.00	
802.11n-HT40 MCS0		54	5270	20.40	21.00	96.94	20.70	21.00	96.94	20.90	21.00	20.10	21.00	23.53	24.00	95.96
		62	5310	17.20	18.00		17.40	18.00		17.70	18.00	17.50	18.00	20.61	21.00	
802.11ac-VHT20 MCS0		52	5260	18.20	19.00	97.97	18.30	19.00	97.97	18.50	19.00	17.80	19.00	21.17	22.00	97.97
		56	5280	18.10	19.00		18.40	19.00		18.40	19.00	17.70	19.00	21.07	22.00	
		60	5300	18.20	19.00		18.50	19.00		18.80	19.00	18.10	19.00	21.22	22.00	
		64	5320	17.80	18.50		18.00	18.50		18.20	18.50	17.60	18.50	20.92	21.50	
802.11ac-VHT40 MCS0		54	5270	20.30	21.00	95.96	20.50	21.00	95.96	20.90	21.00	20.00	21.00	23.48	24.00	95.96
		62	5310	17.10	18.00		17.20	18.00		17.70	18.00	17.40	18.00	20.56	21.00	
802.11ac-VHT80 MCS0		58	5290	16.20	16.50	92.00	16.30	16.50	93.00	16.50	16.50	16.00	16.50	19.27	19.50	93.00



Power Selection				Head			Head			Head						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	116	5580	13.88	14.50	15.11	15.50	11.19	11.50	14.27	14.50	15.97	16.3				
	124	5620	14.00	14.50	15.30	15.50	11.18	11.50	14.33	14.50	16.01	16.3				
	132	5660	14.00	14.50	15.20	15.50	11.05	11.50	14.50	14.50	16.18	16.3				
	144	5720	13.69	14.50	15.23	15.50	10.99	11.50	14.45	14.50	16.08	16.3				
802.11n-HT20 MCS0	100	5500	13.82	14.50	97.43	15.08	15.50	97.41	11.16	11.50	14.47	14.50	16.04	16.3	97.83	
	116	5580	14.02	14.50		15.12	15.50		11.25	11.50	14.40	14.50	16.05	16.3		
	124	5620	14.12	14.50		15.30	15.50		11.24	11.50	14.38	14.50	15.96	16.3		
	132	5660	14.20	14.50		15.22	15.50		11.22	11.50	14.35	14.50	16.04	16.3		
	144	5720	13.79	14.50		15.25	15.50		11.20	11.50	14.50	14.50	16.02	16.3		
802.11n-HT40 MCS0	102	5510	13.84	14.50	95.45	15.19	15.50	95.45	11.07	11.50	14.45	14.50	16.02	16.3	95.45	
	110	5550	13.75	14.50		15.33	15.50		10.98	11.50	14.27	14.50	16.10	16.3		
	126	5630	13.73	14.50		15.23	15.50		11.18	11.50	14.24	14.50	16.11	16.3		
	134	5670	13.86	14.50		15.39	15.50		11.06	11.50	14.49	14.50	16.06	16.3		
	142	5710	13.81	14.50		15.34	15.50		11.12	11.50	14.48	14.50	16.04	16.3		
802.11ac-VHT20 MCS0	100	5500	13.60	14.50	97.88	14.92	15.50	97.98	11.08	11.50	14.36	14.50	16.00	16.3	97.00	
	116	5580	13.50	14.50		15.14	15.50		11.20	11.50	14.35	14.50	16.10	16.3		
	124	5620	13.84	14.50		15.06	15.50		11.27	11.50	14.40	14.50	16.03	16.3		
	132	5660	13.72	14.50		15.21	15.50		11.03	11.50	14.50	14.50	16.08	16.3		
	144	5720	13.56	14.50		15.26	15.50		10.96	11.50	14.30	14.50	15.97	16.3		
802.11ac-VHT40 MCS0	102	5510	13.85	14.50	95.98	15.15	15.50	95.98	11.14	11.50	14.21	14.50	16.12	16.3	95.48	
	110	5550	13.84	14.50		15.24	15.50		10.96	11.50	14.26	14.50	15.96	16.3		
	126	5630	14.07	14.50		14.95	15.50		11.17	11.50	14.32	14.50	16.10	16.3		
	134	5670	13.97	14.50		15.36	15.50		11.11	11.50	14.30	14.50	15.89	16.3		
	142	5710	13.84	14.50		15.41	15.50		11.00	11.50	14.33	14.50	16.01	16.3		
802.11ac-VHT80 MCS0	106	5530	13.68	14.50	91.67	15.35	15.50	90.87	10.86	11.50	14.38	14.50	16.00	16.3	92.15	
	122	5610	13.91	14.50		15.39	15.50		11.32	11.50	14.30	14.50	16.08	16.3		
	138	5690	13.68	14.50		15.25	15.50		10.75	11.50	14.30	14.50	15.97	16.3		



Power Selection				Near body			Near body			Near body						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Average	Tune-Up	Duty	Average	Tune-Up	Duty	Ant 2	Ant 2	Ant 5	Ant 5	Ant 2+5	Ant 2+5	Duty
				power	Limit		Cycle	power		Limit	Cycle	Average	Tune-Up	Average	Tune-Up	
				(dBm)		%	(dBm)		%	(dBm)	Limit	(dBm)	Limit	(dBm)	Limit	%
5.5GHz WLAN	802.11a 6Mbps	100	5500	18.50	19.00	98.10	18.30	19.00	98.10	18.40	19.00	18.20	19.00	21.21	22.00	98.10
		116	5580	18.20	19.00		18.40	19.00		18.80	19.00	18.50	19.00	21.06	22.00	
		124	5620	18.10	19.00		18.20	19.00		18.30	19.00	18.50	19.00	21.41	22.00	
		132	5660	18.10	19.00		18.00	19.00		18.20	19.00	18.40	19.00	21.31	22.00	
		144	5720	18.20	19.00		18.50	19.00		16.70	17.50	16.70	17.50	19.71	20.50	
	802.11n-HT20 MCS0	100	5500	18.90	19.50	98.47	18.70	19.50	97.96	18.60	19.00	18.50	19.00	21.56	22.00	97.96
		116	5580	18.70	19.50		18.70	19.50		18.90	19.50	18.80	19.50	21.86	22.50	
		124	5620	18.50	19.50		18.50	19.50		18.90	19.50	18.60	19.50	21.76	22.50	
		132	5660	18.40	19.50		18.40	19.50		18.80	19.50	18.70	19.50	21.76	22.50	
		144	5720	18.10	19.00		18.40	19.00		18.80	19.50	18.50	19.50	21.66	22.50	
	802.11n-HT40 MCS0	102	5510	15.70	16.50	96.94	16.20	16.50	96.94	17.20	17.50	16.70	17.50	19.97	20.50	95.96
		110	5550	20.30	21.00		20.10	21.00		18.50	19.00	18.10	19.00	21.31	22.00	
		126	5630	20.20	21.00		20.10	21.00		16.00	16.50	16.00	16.50	19.01	19.50	
		134	5670	20.20	21.00		20.30	21.00		20.70	21.00	20.70	21.00	23.71	24.00	
		142	5710	20.10	21.00		20.00	21.00		20.60	21.00	20.50	21.00	23.56	24.00	
	802.11ac-VHT20 MCS0	100	5500	18.80	19.50	97.97	18.60	19.50	97.97	20.70	21.00	20.30	21.00	23.51	24.00	97.97
		116	5580	18.60	19.50		18.60	19.50		20.60	21.00	20.30	21.00	23.46	24.00	
		124	5620	18.40	19.50		18.40	19.50		18.90	19.50	18.70	19.50	21.81	22.50	
		132	5660	18.20	19.50		18.30	19.50		18.60	19.50	18.50	19.50	21.56	22.50	
		144	5720	18.00	19.00		18.30	19.00		18.80	19.50	18.60	19.50	21.71	22.50	
802.11ac-VHT40 MCS0	102	5510	15.60	16.50	95.96	16.00	16.50	95.96	18.70	19.50	18.50	19.50	21.61	22.50	95.96	
	110	5550	20.20	21.00		20.00	21.00		16.80	17.50	16.60	17.50	19.71	20.50		
	126	5630	20.10	21.00		20.00	21.00		18.10	19.00	18.10	19.00	21.11	22.00		
	134	5670	20.10	21.00		20.20	21.00		16.00	16.50	15.90	16.50	18.96	19.50		
	142	5710	20.00	21.00		19.90	21.00		20.60	21.00	20.60	21.00	23.61	24.00		
802.11ac-VHT80 MCS0	106	5530	15.00	16.00	92.00	15.60	16.00	93.00	20.50	21.00	20.50	21.00	23.51	24.00	93.00	
	122	5610	20.50	21.00		20.50	21.00		20.70	21.00	20.20	21.00	23.47	24.00		
	138	5690	20.50	21.00		20.30	21.00		20.60	21.00	20.20	21.00	23.41	24.00		



Power Selection				Head			Head			Head						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	802.11a MCS0	149	5745	12.13	14.00	97.58	15.57	16.00	97.35	10.98	11.50	14.97	15.50	16.36	17.0	97.26
		157	5785	12.24	14.00		15.36	16.00		10.79	11.50	15.08	15.50	16.53	17.0	
		165	5825	12.15	14.00		15.52	16.00		10.86	11.50	14.93	15.50	16.34	17.0	
	802.11n-HT20 MCS0	149	5745	12.25	14.00	97.43	15.71	16.00	97.41	10.84	11.50	15.15	15.50	16.52	17.0	97.83
		157	5785	12.28	14.00		15.58	16.00		11.01	11.50	15.06	15.50	16.52	17.0	
		165	5825	12.13	14.00		15.52	16.00		11.00	11.50	15.03	15.50	16.51	17.0	
	802.11n-HT40 MCS0	151	5755	12.26	14.00	95.45	15.48	16.00	95.45	11.05	11.50	15.06	15.50	16.60	17.0	95.45
		159	5795	12.33	14.00		15.61	16.00		11.03	11.50	14.82	15.50	16.41	17.0	
802.11ac-VHT20 MCS0	149	5745	12.18	14.00	97.88	15.82	16.00	97.98	10.91	11.50	14.88	15.50	16.40	17.0	97.00	
	157	5785	12.34	14.00		15.62	16.00		10.99	11.50	15.04	15.50	16.58	17.0		
	165	5825	12.21	14.00		15.56	16.00		10.93	11.50	15.07	15.50	16.50	17.0		
802.11ac-VHT40 MCS0	151	5755	12.15	14.00	95.98	15.44	16.00	95.98	10.99	11.50	15.13	15.50	16.50	17.0	95.48	
	159	5795	12.06	14.00		15.79	16.00		11.02	11.50	15.10	15.50	16.59	17.0		
802.11ac-VHT80 MCS0	155	5775	12.45	14.00	91.67	15.73	16.00	90.87	11.04	11.50	15.06	15.50	16.47	17.0	92.15	

Power Selection				Near body			Near body			Near body						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	802.11a MCS0	149	5745	19.40	20.00	98.10	19.50	20.00	98.10	19.70	20.00	19.30	20.00	22.51	23.00	98.10
		157	5785	19.20	20.00		19.70	20.00		19.50	20.00	19.60	20.00	22.56	23.00	
		165	5825	19.40	20.00		19.60	20.00		19.70	20.00	19.70	20.00	22.71	23.00	
	802.11n-HT20 MCS0	149	5745	19.40	20.00	98.47	19.60	20.00	97.96	19.50	20.00	19.30	20.00	22.41	23.00	97.96
		157	5785	19.50	20.00		19.50	20.00		19.70	20.00	19.80	20.00	22.76	23.00	
		165	5825	19.30	20.00		19.50	20.00		19.40	20.00	19.60	20.00	22.51	23.00	
	802.11n-HT40 MCS0	151	5755	19.70	20.00	96.94	19.70	20.00	96.94	19.90	20.00	19.70	20.00	22.81	23.00	95.96
		159	5795	19.60	20.00		19.50	20.00		19.60	20.00	19.80	20.00	22.71	23.00	
802.11ac-VHT20 MCS0	149	5745	19.30	20.00	97.97	19.50	20.00	97.97	19.30	20.00	19.10	20.00	22.21	23.00	97.97	
	157	5785	19.40	20.00		19.30	20.00		19.40	20.00	19.70	20.00	22.56	23.00		
	165	5825	19.20	20.00		19.10	20.00		19.20	20.00	19.50	20.00	22.36	23.00		
802.11ac-VHT40 MCS0	151	5755	19.60	20.00	95.96	19.60	20.00	95.96	19.80	20.00	19.70	20.00	22.76	23.00	95.96	
	159	5795	19.50	20.00		19.40	20.00		19.50	20.00	19.80	20.00	22.66	23.00		
802.11ac-VHT80 MCS0	155	5775	19.50	20.00	92.00	19.30	20.00	93.00	19.50	20.00	19.30	20.00	22.41	23.00	93.00	



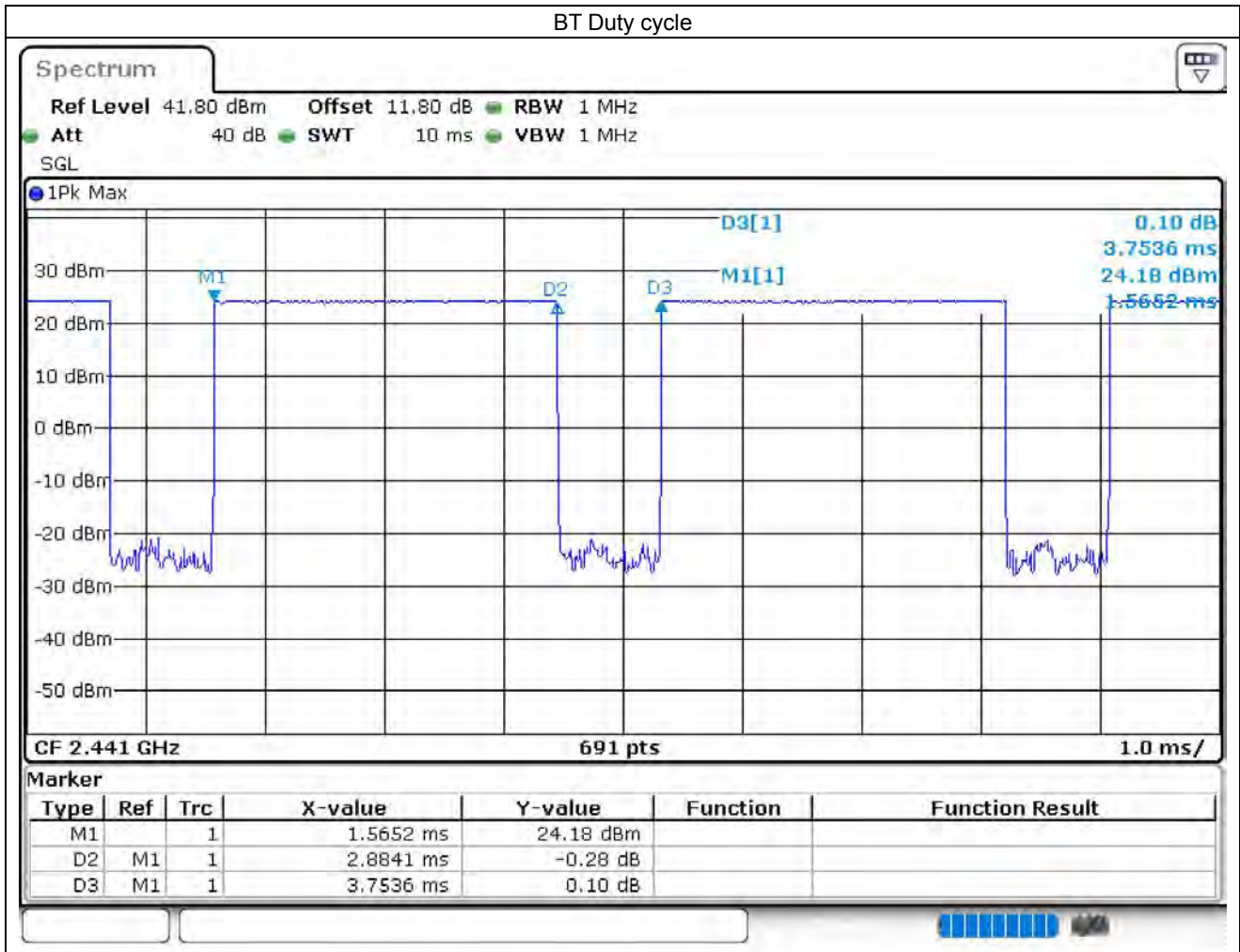
<2.4GHz Bluetooth>

General Note:

- For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 76.84% considered in SAR testing.

Power Selection			Near body		
Transmit Antenna			Ant 2		
Max. Power			19.5	19.5	19.5
Mode	Channel	Frequency (MHz)	1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	18.67	18.19	18.28
	CH 39	2441	18.60	18.07	18.16
	CH 78	2480	18.16	17.58	17.60

Power Selection			Near body	
Transmit Antenna			Ant 2	
Max. Power			13.5	13.5
Mode	Channel	Frequency (MHz)	1Mbps	2Mbps
LE	CH 00	2402	12.50	12.80
	CH 19	2440	12.80	13.10
	CH 39	2480	12.50	12.80



## **12. Simultaneous Conducted RF Output Power (Unit: dBm)**

### **<GSM Conducted Power>**

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode, SAR measurement is not required for the secondary mode

Power Selection	Transmit Antenna	GSM850			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel			128	189	251		128	189	251	
		Frequency (MHz)			824.2	836.4	848.8		824.2	836.4	848.8	
Head / Near body / Hotspot	Ant 0a	GSM 1 Tx slot			33.59	33.51	33.52	34.00	24.59	24.51	24.52	25.00
		GPRS 1 Tx slot			33.60	33.58	33.54	34.00	24.60	24.58	24.54	25.00
		GPRS 2 Tx slots			31.95	32.03	31.87	32.50	25.95	26.03	25.87	26.50
		GPRS 3 Tx slots			30.70	30.74	30.96	31.50	26.44	26.48	26.70	27.24
		GPRS 4 Tx slots			30.16	29.85	30.10	30.50	27.16	26.85	27.10	27.50
		EDGE 1 Tx slot			26.84	26.85	26.79	28.00	17.84	17.85	17.79	19.00
		EDGE 2 Tx slots			26.88	26.93	26.77	27.50	20.88	20.93	20.77	21.50
		EDGE 3 Tx slots			26.79	26.76	26.59	27.50	22.53	22.50	22.33	23.24
		EDGE 4 Tx slots			25.35	25.27	25.08	25.50	22.35	22.27	22.08	22.50

Power Selection	Transmit Antenna	GSM850			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel			128	189	251		128	189	251	
		Frequency (MHz)			824.2	836.4	848.8		824.2	836.4	848.8	
Head	Ant 1	GSM 1 Tx slot			32.18	32.01	32.08	32.50	23.18	23.01	23.08	23.50
		GPRS 1 Tx slot			32.17	32.17	32.09	32.50	23.17	23.17	23.09	23.50
		GPRS 2 Tx slots			28.93	29.01	28.86	29.50	22.93	23.01	22.86	23.50
		GPRS 3 Tx slots			27.15	27.21	27.45	27.50	22.89	22.95	23.19	23.24
		GPRS 4 Tx slots			26.03	26.23	26.11	26.50	23.03	23.23	23.11	23.50
		EDGE 1 Tx slot			26.84	26.85	26.79	28.00	17.84	17.85	17.79	19.00
		EDGE 2 Tx slots			26.88	26.93	26.77	27.50	20.88	20.93	20.77	21.50
		EDGE 3 Tx slots			26.79	26.76	26.59	27.50	22.53	22.50	22.33	23.24
EDGE 4 Tx slots			25.35	25.27	25.08	25.50	22.35	22.27	22.08	22.50		

Power Selection	Transmit Antenna	GSM850			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel			128	189	251		128	189	251	
		Frequency (MHz)			824.2	836.4	848.8		824.2	836.4	848.8	
Near body / Hotspot	Ant 1	GSM 1 Tx slot			33.59	33.51	33.52	34.00	24.59	24.51	24.52	25.00
		GPRS 1 Tx slot			33.60	33.58	33.54	34.00	24.60	24.58	24.54	25.00
		GPRS 2 Tx slots			31.95	32.03	31.87	32.50	25.95	26.03	25.87	26.50
		GPRS 3 Tx slots			30.70	30.74	30.96	31.50	26.44	26.48	26.70	27.24
		GPRS 4 Tx slots			30.16	29.85	30.10	30.50	27.16	26.85	27.10	27.50
		EDGE 1 Tx slot			26.84	26.85	26.79	28.00	17.84	17.85	17.79	19.00
		EDGE 2 Tx slots			26.88	26.93	26.77	27.50	20.88	20.93	20.77	21.50
		EDGE 3 Tx slots			26.79	26.76	26.59	27.50	22.53	22.50	22.33	23.24
EDGE 4 Tx slots			25.35	25.27	25.08	25.50	22.35	22.27	22.08	22.50		



Power Selection	Transmit Antenna	GSM1900			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel	512	661	810	512	661		810			
		Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880		1909.8			
Head / Hotspot / Near body	Ant 0b	GSM 1 Tx slot	28.69	29.00	28.71	30.00	19.69	20.00	19.71	21.00		
		GPRS 1 Tx slot	28.81	29.03	28.75	30.00	19.81	20.03	19.75	21.00		
		GPRS 2 Tx slots	28.29	28.52	28.24	29.50	22.29	22.52	22.24	23.50		
		GPRS 3 Tx slots	27.64	27.96	27.70	29.00	23.38	23.70	23.44	24.74		
		GPRS 4 Tx slots	26.64	26.81	26.74	28.00	23.64	23.81	23.74	25.00		
		EDGE 1 Tx slot	24.79	24.93	24.79	26.00	15.79	15.93	15.79	17.00		
		EDGE 2 Tx slots	23.71	23.74	23.58	25.00	17.71	17.74	17.58	19.00		
		EDGE 3 Tx slots	23.56	23.49	23.44	25.00	19.30	19.23	19.18	20.74		
EDGE 4 Tx slots	22.44	22.24	22.14	24.00	19.44	19.24	19.14	21.00				

Power Selection	Transmit Antenna	GSM1900			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel	512	661	810	512	661		810			
		Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880		1909.8			
Head	Ant 1	GSM 1 Tx slot	28.19	28.45	28.20	28.50	19.19	19.45	19.20	19.50		
		GPRS 1 Tx slot	28.30	28.49	28.25	28.50	19.30	19.49	19.25	19.50		
		GPRS 2 Tx slots	25.25	25.48	25.23	25.50	19.25	19.48	19.23	19.50		
		GPRS 3 Tx slots	22.55	22.95	22.60	23.50	18.29	18.69	18.34	19.24		
		GPRS 4 Tx slots	21.68	21.61	21.55	22.50	18.68	18.61	18.55	19.50		
		EDGE 1 Tx slot	24.72	24.90	24.76	26.00	15.72	15.90	15.76	17.00		
		EDGE 2 Tx slots	23.71	23.74	23.58	25.00	17.71	17.74	17.58	19.00		
		EDGE 3 Tx slots	23.49	23.44	23.41	23.50	19.23	19.18	19.15	19.24		
EDGE 4 Tx slots	21.92	21.72	21.61	22.00	18.92	18.72	18.61	19.00				

Power Selection	Transmit Antenna	GSM1900			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel	512	661	810	512	661		810			
		Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880		1909.8			
Hotspot	Ant 1	GSM 1 Tx slot	28.69	29.00	28.71	30.00	19.69	20.00	19.71	21.00		
		GPRS 1 Tx slot	28.81	29.03	28.75	30.00	19.81	20.03	19.75	21.00		
		GPRS 2 Tx slots	28.29	28.52	28.24	29.50	22.29	22.52	22.24	23.50		
		GPRS 3 Tx slots	27.64	27.96	27.70	28.50	23.38	23.70	23.44	24.24		
		GPRS 4 Tx slots	26.64	26.81	26.74	27.50	23.64	23.81	23.74	24.50		
		EDGE 1 Tx slot	24.79	24.93	24.79	26.00	15.79	15.93	15.79	17.00		
		EDGE 2 Tx slots	23.71	23.74	23.58	25.00	17.71	17.74	17.58	19.00		
		EDGE 3 Tx slots	23.56	23.49	23.44	25.00	19.30	19.23	19.18	20.74		
EDGE 4 Tx slots	22.44	22.24	22.14	24.00	19.44	19.24	19.14	21.00				

Power Selection	Transmit Antenna	GSM1900			Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
		TX Channel	512	661	810	512	661		810			
		Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880		1909.8			
Near body	Ant 1	GSM 1 Tx slot	28.69	29.00	28.71	30.00	19.69	20.00	19.71	21.00		
		GPRS 1 Tx slot	28.81	29.03	28.75	30.00	19.81	20.03	19.75	21.00		
		GPRS 2 Tx slots	28.29	28.52	28.24	29.50	22.29	22.52	22.24	23.50		
		GPRS 3 Tx slots	27.64	27.96	27.70	29.00	23.38	23.70	23.44	24.74		
		GPRS 4 Tx slots	26.64	26.81	26.74	28.00	23.64	23.81	23.74	25.00		
		EDGE 1 Tx slot	24.79	24.93	24.79	26.00	15.79	15.93	15.79	17.00		
		EDGE 2 Tx slots	23.71	23.74	23.58	25.00	17.71	17.74	17.58	19.00		
		EDGE 3 Tx slots	23.56	23.49	23.44	25.00	19.30	19.23	19.18	20.74		
EDGE 4 Tx slots	22.44	22.24	22.14	24.00	19.44	19.24	19.14	21.00				



**<WCDMA Conducted Power>**

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

**HSDPA Setup Configuration:**

- e. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- f. The RF path losses were compensated into the measurements.
- g. A call was established between EUT and Base Station with following setting:
  - xii. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters were set according to each
  - xiii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
  - xiv. Set RMC 12.2Kbps + HSDPA mode.
  - xv. Set Cell Power = -86 dBm
  - xvi. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
  - xvii. Select HSDPA Uplink Parameters
  - xviii. Set Delta ACK, Delta NACK and Delta CQI = 8
  - xix. Set Ack-Nack Repetition Factor to 3
  - xx. Set CQI Feedback Cycle (k) to 4 ms
  - xxi. Set CQI Repetition Factor to 2
  - xxii. Power Ctrl Mode = All Up bits
- h. The transmitted maximum output power was recorded.

**Table C.10.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH**

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ .

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA,  $\Delta_{ACK}$  and  $\Delta_{NACK} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ , and  $\Delta_{CQI} = 24/15$  with  $\beta_{HS} = 24/15 * \beta_c$ .

Note 3: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{HS}/\beta_c = 24/15$ . For all other combinations of DPCCH, DPDCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

**Setup Configuration**

**HSUPA Setup Configuration:**

- e. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- f. The RF path losses were compensated into the measurements.
- g. A call was established between EUT and Base Station with following setting \* :
  - ix. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
  - x. Set the Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
  - xi. Set Cell Power = -86 dBm
  - xii. Set Channel Type = 12.2k + HSPA
  - xiii. Set UE Target Power
  - xiv. Power Ctrl Mode= Alternating bits
  - xv. Set and observe the E-TFCl
  - xvi. Confirm that E-TFCl is equal to the target E-TFCl of 75 for sub-test 1, and other subtest's E-TFCl
- h. The transmitted maximum output power was recorded.

**Table C.11.1.3:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH**

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note1)	$\beta_{ec}$	$\beta_{ed}$ (Note 4) (Note 5)	$\beta_{ed}$ (SF)	$\beta_{ed}$ (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCl
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}$ : 47/15 $\beta_{ed2}$ : 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ . For sub-test 5,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 5/15$  with  $\beta_{HS} = 5/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{HS}/\beta_c = 24/15$ . 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  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

**Setup Configuration**

**DC-HSDPA 3GPP release 8 Setup Configuration:**

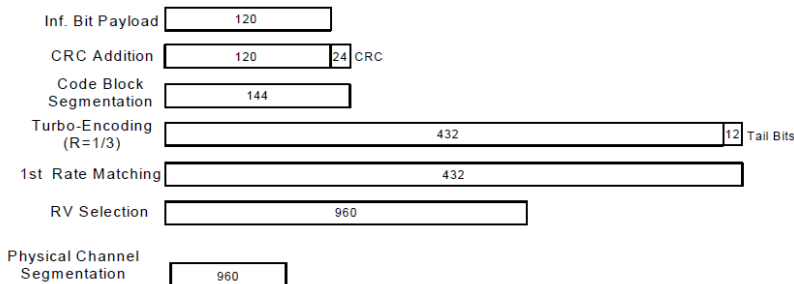
- e. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
- f. The RF path losses were compensated into the measurements.
- g. A call was established between EUT and Base Station with following setting:
  - xi. Set RMC 12.2Kbps + HSDPA mode.
  - xii. Set Cell Power = -25 dBm
  - xiii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
  - xiv. Select HSDPA Uplink Parameters
  - xv. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
    - a). Subtest 1:  $\beta_c/\beta_d=2/15$
    - b). Subtest 2:  $\beta_c/\beta_d=12/15$
    - c). Subtest 3:  $\beta_c/\beta_d=15/8$
    - d). Subtest 4:  $\beta_c/\beta_d=15/4$
  - xvi. Set Delta ACK, Delta NACK and Delta CQI = 8
  - xvii. Set Ack-Nack Repetition Factor to 3
  - xviii. Set CQI Feedback Cycle (k) to 4 ms
  - xix. Set CQI Repetition Factor to 2
  - xx. Power Ctrl Mode = All Up bits
- h. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

**C.8.1.12 Fixed Reference Channel Definition H-Set 12**

**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)**

**Setup Configuration**



Power Selection	Transmit Antenna	Band		WCDMA II			WCDMA IV		
		TX Channel		9262	9400	9538	1312	1413	1513
		Rx Channel		9662	9800	9938	1537	1638	1738
		Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6
Head / Near body / Hotspot	Ant 0b	Max Power		24.75			24.75		
		3GPP Rel 99	AMR 12.2Kbps	24.44	24.51	24.52	24.50	24.50	24.47
		3GPP Rel 99	RMC 12.2Kbps	24.48	24.52	24.53	24.53	24.52	24.49
		Max Power		23.75			23.75		
		3GPP Rel 6	HSDPA Subtest-1	23.34	23.48	23.50	23.55	23.50	23.48
		3GPP Rel 6	HSDPA Subtest-2	23.33	23.45	23.48	23.51	23.48	23.48
		3GPP Rel 6	HSDPA Subtest-3	22.83	22.95	23.00	23.03	22.99	22.98
		3GPP Rel 6	HSDPA Subtest-4	22.79	22.88	22.99	22.97	22.98	22.94
		Max Power		23.75			23.75		
		3GPP Rel 8	DC-HSDPA Subtest-1	23.12	23.22	23.28	23.30	23.29	23.29
		3GPP Rel 8	DC-HSDPA Subtest-2	23.15	23.23	23.30	23.33	23.30	23.25
		3GPP Rel 8	DC-HSDPA Subtest-3	22.64	22.73	22.77	22.79	22.77	22.76
		3GPP Rel 8	DC-HSDPA Subtest-4	22.61	22.70	22.75	22.73	22.75	22.72
		Max Power		23.75			23.75		
		3GPP Rel 6	HSUPA Subtest-1	23.37	23.54	23.47	23.50	23.45	23.54
		3GPP Rel 6	HSUPA Subtest-2	21.43	21.46	21.49	21.46	21.57	21.49
		3GPP Rel 6	HSUPA Subtest-3	22.38	22.47	22.49	22.52	22.52	22.48
		3GPP Rel 6	HSUPA Subtest-4	21.36	21.52	21.55	21.48	21.49	21.45
		3GPP Rel 6	HSUPA Subtest-5	23.40	23.50	23.50	23.50	23.50	23.50

Power Selection	Transmit Antenna	Band		WCDMA II			WCDMA IV			WCDMA V		
		TX Channel		9262	9400	9538	1312	1413	1513	4132	4182	4233
		Rx Channel		9662	9800	9938	1537	1638	1738	4357	4407	4458
		Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6
Head	Ant 1	Max Power		19.00			21.00			22.50		
		3GPP Rel 99	AMR 12.2Kbps	18.57	18.64	18.59	20.16	20.17	20.15	21.81	21.82	21.78
		3GPP Rel 99	RMC 12.2Kbps	18.58	18.65	18.60	20.18	20.19	20.16	21.82	21.83	21.78
		Max Power		18.00			20.00			21.50		
		3GPP Rel 6	HSDPA Subtest-1	17.43	17.53	17.52	19.18	19.13	19.13	20.70	20.72	20.71
		3GPP Rel 6	HSDPA Subtest-2	17.34	17.49	17.58	19.21	19.15	19.08	20.70	20.70	20.72
		3GPP Rel 6	HSDPA Subtest-3	16.93	17.03	17.00	18.72	18.58	18.58	20.01	20.22	20.16
		3GPP Rel 6	HSDPA Subtest-4	16.84	16.90	17.04	18.62	18.65	18.62	20.02	20.23	20.11
		Max Power		18.00			20.00			21.50		
		3GPP Rel 8	DC-HSDPA Subtest-1	17.17	17.27	17.36	18.95	18.88	18.92	20.50	20.77	20.62
		3GPP Rel 8	DC-HSDPA Subtest-2	17.24	17.30	17.40	19.01	18.89	18.90	20.51	20.67	20.61
		3GPP Rel 8	DC-HSDPA Subtest-3	16.73	16.81	16.77	18.44	18.42	18.37	20.02	20.23	20.11
		3GPP Rel 8	DC-HSDPA Subtest-4	16.66	16.72	16.80	18.37	18.33	18.41	20.01	20.16	20.21
		Max Power		18.00			20.00			21.50		
		3GPP Rel 6	HSUPA Subtest-1	17.41	17.54	17.48	19.21	19.05	19.16	20.55	20.56	20.59
		3GPP Rel 6	HSUPA Subtest-2	15.51	15.46	15.49	17.15	17.22	17.16	18.59	18.78	18.76
		3GPP Rel 6	HSUPA Subtest-3	16.42	16.49	16.49	18.15	18.10	18.10	19.56	19.55	19.60
		3GPP Rel 6	HSUPA Subtest-4	15.37	15.53	15.64	17.15	17.14	17.15	18.59	18.78	18.75
		3GPP Rel 6	HSUPA Subtest-5	17.40	17.55	17.60	19.14	19.09	19.16	20.78	20.97	20.87



Power Selection	Transmit Antenna	Band		WCDMA II		
		TX Channel		9262	9400	9538
		Rx Channel		9662	9800	9938
		Frequency (MHz)		1852.4	1880	1907.6
Hotspot	Ant 1	Max Power		23.50		
		3GPP Rel 99	AMR 12.2Kbps	22.85	22.92	22.95
		3GPP Rel 99	RMC 12.2Kbps	22.89	22.96	22.99
		Max Power		22.50		
		3GPP Rel 6	HSDPA Subtest-1	21.66	21.82	21.84
		3GPP Rel 6	HSDPA Subtest-2	21.57	21.69	21.90
		3GPP Rel 6	HSDPA Subtest-3	21.15	21.33	21.32
		3GPP Rel 6	HSDPA Subtest-4	21.07	21.18	21.36
		Max Power		22.50		
		3GPP Rel 8	DC-HSDPA Subtest-1	21.45	21.52	21.76
		3GPP Rel 8	DC-HSDPA Subtest-2	21.51	21.50	21.72
		3GPP Rel 8	DC-HSDPA Subtest-3	21.03	21.03	21.16
		3GPP Rel 8	DC-HSDPA Subtest-4	20.95	20.94	21.15
		Max Power		22.50		
		3GPP Rel 6	HSUPA Subtest-1	21.70	21.80	21.86
		3GPP Rel 6	HSUPA Subtest-2	19.79	19.66	19.80
		3GPP Rel 6	HSUPA Subtest-3	20.71	20.72	20.85
		3GPP Rel 6	HSUPA Subtest-4	19.59	19.73	19.97
		3GPP Rel 6	HSUPA Subtest-5	21.66	21.76	21.93

Power Selection	Transmit Antenna	Band		WCDMA IV			WCDMA V		
		TX Channel		1312	1413	1513	4132	4182	4233
		Rx Channel		1537	1638	1738	4357	4407	4458
		Frequency (MHz)		1712.4	1732.6	1752.6	826.4	836.4	846.6
Hotspot	Ant 1	Max Power		24.75			25.00		
		3GPP Rel 99	AMR 12.2Kbps	24.50	24.50	24.47	24.65	24.69	24.59
		3GPP Rel 99	RMC 12.2Kbps	24.53	24.52	24.49	24.78	24.77	24.61
		Max Power		23.75			24.00		
		3GPP Rel 6	HSDPA Subtest-1	23.55	23.50	23.48	23.79	23.80	23.33
		3GPP Rel 6	HSDPA Subtest-2	23.51	23.48	23.48	23.78	23.80	23.35
		3GPP Rel 6	HSDPA Subtest-3	23.03	22.99	22.98	23.27	23.26	22.81
		3GPP Rel 6	HSDPA Subtest-4	22.97	22.98	22.94	23.27	23.28	22.80
		Max Power		23.75			24.00		
		3GPP Rel 8	DC-HSDPA Subtest-1	23.30	23.29	23.29	23.75	23.77	23.29
		3GPP Rel 8	DC-HSDPA Subtest-2	23.33	23.30	23.25	23.75	23.76	23.28
		3GPP Rel 8	DC-HSDPA Subtest-3	22.79	22.77	22.76	23.26	23.27	22.73
		3GPP Rel 8	DC-HSDPA Subtest-4	22.73	22.75	22.72	23.25	23.25	22.85
		Max Power		23.75			24.00		
		3GPP Rel 6	HSUPA Subtest-1	23.50	23.45	23.54	22.01	22.10	22.01
		3GPP Rel 6	HSUPA Subtest-2	21.46	21.57	21.49	21.83	21.82	21.45
		3GPP Rel 6	HSUPA Subtest-3	22.52	22.52	22.48	21.52	21.31	21.15
		3GPP Rel 6	HSUPA Subtest-4	21.48	21.49	21.45	21.82	21.83	21.43
		3GPP Rel 6	HSUPA Subtest-5	23.50	23.50	23.50	24.00	24.00	23.50



Power Selection	Transmit Antenna	Band		WCDMA II			WCDMA IV			WCDMA V		
		TX Channel		9262	9400	9538	1312	1413	1513	4132	4182	4233
		Rx Channel		9662	9800	9938	1537	1638	1738	4357	4407	4458
		Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6
Near body	Ant 1	Max Power		24.75			24.75			25.00		
		3GPP Rel 99	AMR 12.2Kbps	24.44	24.51	24.52	24.50	24.50	24.47	24.65	24.69	24.59
		3GPP Rel 99	RMC 12.2Kbps	24.48	24.52	24.53	24.53	24.52	24.49	24.78	24.77	24.61
		Max Power		23.75			23.75			24.00		
		3GPP Rel 6	HSDPA Subtest-1	23.34	23.48	23.50	23.55	23.50	23.48	23.79	23.80	23.33
		3GPP Rel 6	HSDPA Subtest-2	23.33	23.45	23.48	23.51	23.48	23.48	23.78	23.80	23.35
		3GPP Rel 6	HSDPA Subtest-3	22.83	22.95	23.00	23.03	22.99	22.98	23.27	23.26	22.81
		3GPP Rel 6	HSDPA Subtest-4	22.79	22.88	22.99	22.97	22.98	22.94	23.27	23.28	22.80
		Max Power		23.75			23.75			24.00		
		3GPP Rel 8	DC-HSDPA Subtest-1	23.12	23.22	23.28	23.30	23.29	23.29	23.75	23.77	23.29
		3GPP Rel 8	DC-HSDPA Subtest-2	23.15	23.23	23.30	23.33	23.30	23.25	23.75	23.76	23.28
		3GPP Rel 8	DC-HSDPA Subtest-3	22.64	22.73	22.77	22.79	22.77	22.76	23.26	23.27	22.73
		3GPP Rel 8	DC-HSDPA Subtest-4	22.61	22.70	22.75	22.73	22.75	22.72	23.25	23.25	22.85
		Max Power		23.75			23.75			24.00		
		3GPP Rel 6	HSUPA Subtest-1	23.37	23.54	23.47	23.50	23.45	23.54	22.01	22.10	22.01
		3GPP Rel 6	HSUPA Subtest-2	21.43	21.46	21.49	21.46	21.57	21.49	21.83	21.82	21.45
		3GPP Rel 6	HSUPA Subtest-3	22.38	22.47	22.49	22.52	22.52	22.48	21.52	21.31	21.15
		3GPP Rel 6	HSUPA Subtest-4	21.36	21.52	21.55	21.48	21.49	21.45	21.82	21.83	21.43
		3GPP Rel 6	HSUPA Subtest-5	23.40	23.50	23.50	23.50	23.50	23.50	24.00	24.00	23.50



Power Selection	Transmit Antenna	Band		WCDMA IV		
		TX Channel		1312	1413	1513
		Rx Channel		1537	1638	1738
		Frequency (MHz)		1712.4	1732.6	1752.6
Head / Near body	Ant 0c	Max Power		24.75		
		3GPP Rel 99	AMR 12.2Kbps	24.50	24.50	24.47
		3GPP Rel 99	RMC 12.2Kbps	24.53	24.52	24.49
		Max Power		23.75		
		3GPP Rel 6	HSDPA Subtest-1	23.55	23.50	23.48
		3GPP Rel 6	HSDPA Subtest-2	23.51	23.48	23.48
		3GPP Rel 6	HSDPA Subtest-3	23.03	22.99	22.98
		3GPP Rel 6	HSDPA Subtest-4	22.97	22.98	22.94
		Max Power		23.75		
		3GPP Rel 8	DC-HSDPA Subtest-1	23.30	23.29	23.29
		3GPP Rel 8	DC-HSDPA Subtest-2	23.33	23.30	23.25
		3GPP Rel 8	DC-HSDPA Subtest-3	22.79	22.77	22.76
		3GPP Rel 8	DC-HSDPA Subtest-4	22.73	22.75	22.72
		Max Power		23.75		
		3GPP Rel 6	HSUPA Subtest-1	23.50	23.45	23.54
		3GPP Rel 6	HSUPA Subtest-2	21.46	21.57	21.49
		3GPP Rel 6	HSUPA Subtest-3	22.52	22.52	22.48
		3GPP Rel 6	HSUPA Subtest-4	21.48	21.49	21.45
		3GPP Rel 6	HSUPA Subtest-5	23.50	23.50	23.50

Power Selection	Transmit Antenna	Band		WCDMA IV		
		TX Channel		1312	1413	1513
		Rx Channel		1537	1638	1738
		Frequency (MHz)		1712.4	1732.6	1752.6
Hotspot	Ant 0c	Max Power		23.00		
		3GPP Rel 99	AMR 12.2Kbps	22.64	22.65	22.59
		3GPP Rel 99	RMC 12.2Kbps	22.69	22.70	22.68
		Max Power		22.00		
		3GPP Rel 6	HSDPA Subtest-1	21.68	21.66	21.68
		3GPP Rel 6	HSDPA Subtest-2	21.68	21.68	21.65
		3GPP Rel 6	HSDPA Subtest-3	21.19	21.18	21.18
		3GPP Rel 6	HSDPA Subtest-4	21.20	21.20	21.15
		Max Power		22.00		
		3GPP Rel 8	DC-HSDPA Subtest-1	21.60	21.63	21.58
		3GPP Rel 8	DC-HSDPA Subtest-2	21.61	21.60	21.63
		3GPP Rel 8	DC-HSDPA Subtest-3	21.11	21.13	21.09
		3GPP Rel 8	DC-HSDPA Subtest-4	21.10	21.11	21.11
		Max Power		22.00		
		3GPP Rel 6	HSUPA Subtest-1	21.67	21.70	21.73
		3GPP Rel 6	HSUPA Subtest-2	19.67	19.63	19.67
		3GPP Rel 6	HSUPA Subtest-3	20.71	20.72	20.65
		3GPP Rel 6	HSUPA Subtest-4	19.72	19.63	19.72
		3GPP Rel 6	HSUPA Subtest-5	21.70	21.70	21.70



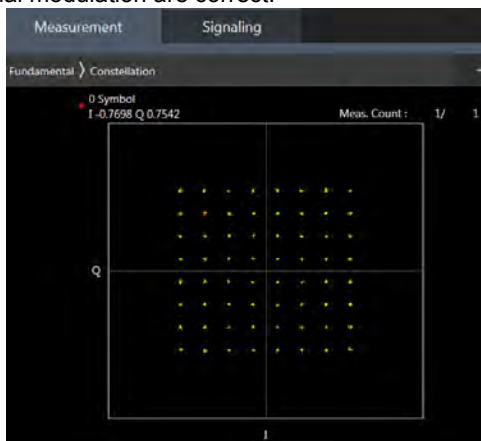
Power Selection	Transmit Antenna	Band		WCDMA V		
		TX Channel		4132	4182	4233
		Rx Channel		4357	4407	4458
		Frequency (MHz)		826.4	836.4	846.6
Head / Hotspot / Near body	Ant 0a	Max Power		25.00		
		3GPP Rel 99	AMR 12.2Kbps	24.65	24.69	24.59
		3GPP Rel 99	RMC 12.2Kbps	24.78	24.77	24.61
		Max Power		24.00		
		3GPP Rel 6	HSDPA Subtest-1	23.79	23.80	23.33
		3GPP Rel 6	HSDPA Subtest-2	23.78	23.80	23.35
		3GPP Rel 6	HSDPA Subtest-3	23.27	23.26	22.81
		3GPP Rel 6	HSDPA Subtest-4	23.27	23.28	22.80
		Max Power		24.00		
		3GPP Rel 8	DC-HSDPA Subtest-1	23.75	23.77	23.29
		3GPP Rel 8	DC-HSDPA Subtest-2	23.75	23.76	23.28
		3GPP Rel 8	DC-HSDPA Subtest-3	23.26	23.27	22.73
		3GPP Rel 8	DC-HSDPA Subtest-4	23.25	23.25	22.85
		Max Power		24.00		
		3GPP Rel 6	HSUPA Subtest-1	22.01	22.10	22.01
		3GPP Rel 6	HSUPA Subtest-2	21.83	21.82	21.45
		3GPP Rel 6	HSUPA Subtest-3	21.52	21.31	21.15
		3GPP Rel 6	HSUPA Subtest-4	21.82	21.83	21.43
		3GPP Rel 6	HSUPA Subtest-5	24.00	24.00	23.50



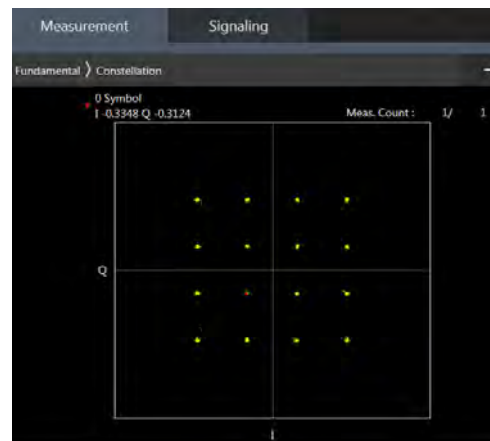
**<LTE Conducted Power>**

**General Note:**

1. Anritsu MT8820C 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 D05v02r05, 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 D05v02r05, 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 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, 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  $\leq 0.8$  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 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B12/B17/B26/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
  - c. the maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion
  - d. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



**64QAM**



**16QAM**



**<LTE Band 2>**

SAR for LTE B2 is covered by LTE B25 due to overlapping frequency range, less or same maximum tune-up limit and the same channel bandwidth

**<LTE Band 4>**

Ant 0a, Ant 0b & Ant 1 SAR for LTE B4 is covered by LTE B66 due to overlapping frequency range, less or same maximum tune-up limit and the same channel bandwidth

**<LTE Band 5>**

SAR for LTE B5 is covered by LTE B26 due to overlapping frequency range, less or same maximum tune-up limit and the same channel bandwidth

**<LTE Band 4>**

Ant 0b & Ant 1 SAR for LTE B4 is covered by LTE B66 due to overlapping frequency range, less or same maximum tune-up limit and the same channel bandwidth

Power Selection				Head / Hotspot / Near body		
Transmit Antenna				Ant 0c		
Max. Power				24.75		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	QPSK	1	0	24.32	24.26	24.28
20	QPSK	1	49	24.20	24.17	24.19
20	QPSK	1	99	24.20	24.19	24.20
20	QPSK	50	0	23.37	23.34	23.36
20	QPSK	50	24	23.35	23.31	23.35
20	QPSK	50	50	23.32	23.29	23.34
20	QPSK	100	0	23.36	23.30	23.35
20	16QAM	1	0	23.60	23.54	23.60
20	16QAM	1	49	23.45	23.46	23.46
20	16QAM	1	99	23.46	23.46	23.46
20	16QAM	50	0	22.39	22.34	22.38
20	16QAM	50	24	22.38	22.34	22.38
20	16QAM	50	50	22.35	22.32	22.35
20	16QAM	100	0	22.37	22.33	22.34
20	64QAM	1	0	22.53	22.54	22.52
20	64QAM	1	49	22.42	22.43	22.43
20	64QAM	1	99	22.42	22.38	22.43
20	64QAM	50	0	21.40	21.36	21.39
20	64QAM	50	24	21.40	21.33	21.40
20	64QAM	50	50	21.34	21.32	21.36
20	64QAM	100	0	21.36	21.32	21.37
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	24.16	24.12	24.12
15	QPSK	1	37	24.14	24.14	23.92
15	QPSK	1	74	24.16	24.11	24.13
15	QPSK	36	0	23.20	23.18	23.18
15	QPSK	36	20	23.22	23.23	23.30
15	QPSK	36	39	23.17	23.29	23.25
15	QPSK	75	0	23.18	23.18	23.22
15	16QAM	1	0	23.31	23.42	23.57
15	16QAM	1	37	23.31	23.35	23.18
15	16QAM	1	74	23.49	23.39	23.37
15	16QAM	36	0	22.23	22.16	22.24
15	16QAM	36	20	22.20	22.28	22.23



15	16QAM	36	39	22.15	22.14	22.31
15	16QAM	75	0	22.24	22.25	22.19
15	64QAM	1	0	22.53	22.32	22.46
15	64QAM	1	37	22.62	22.28	22.33
15	64QAM	1	74	22.43	22.33	22.28
15	64QAM	36	0	21.21	21.21	21.30
15	64QAM	36	20	21.21	21.28	21.32
15	64QAM	36	39	21.23	21.26	21.17
15	64QAM	75	0	21.25	21.22	21.28
Channel				20000	20175	20350
Frequency (MHz)				1715	1732.5	1750
10	QPSK	1	0	23.90	24.11	23.77
10	QPSK	1	25	23.99	23.86	24.16
10	QPSK	1	49	23.78	23.98	23.98
10	QPSK	25	0	23.09	23.11	23.13
10	QPSK	25	12	23.11	23.15	23.10
10	QPSK	25	25	23.00	23.02	23.07
10	QPSK	50	0	23.08	23.01	23.09
10	16QAM	1	0	23.13	23.25	23.74
10	16QAM	1	25	23.42	23.01	23.46
10	16QAM	1	49	23.04	23.09	23.35
10	16QAM	25	0	22.17	22.02	22.20
10	16QAM	25	12	22.20	22.08	22.19
10	16QAM	25	25	22.18	21.96	22.09
10	16QAM	50	0	22.04	22.08	22.08
10	64QAM	1	0	22.21	22.01	21.94
10	64QAM	1	25	21.97	22.06	22.30
10	64QAM	1	49	22.09	22.01	22.22
10	64QAM	25	0	21.10	21.10	21.20
10	64QAM	25	12	21.05	21.06	21.22
10	64QAM	25	25	21.05	20.97	21.15
10	64QAM	50	0	21.13	20.99	21.13
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	23.90	23.93	24.07
5	QPSK	1	12	24.03	23.89	24.09
5	QPSK	1	24	24.06	24.00	23.99
5	QPSK	12	0	23.00	23.05	23.10
5	QPSK	12	7	23.16	23.14	23.22
5	QPSK	12	13	23.08	23.03	23.17
5	QPSK	25	0	23.07	23.02	23.15
5	16QAM	1	0	23.11	23.10	23.18
5	16QAM	1	12	23.55	23.28	23.48
5	16QAM	1	24	23.46	23.30	23.08
5	16QAM	12	0	22.07	22.02	22.09
5	16QAM	12	7	22.14	22.04	22.17
5	16QAM	12	13	22.14	22.10	22.15
5	16QAM	25	0	22.18	22.13	22.17
5	64QAM	1	0	22.32	22.40	22.15
5	64QAM	1	12	22.19	22.18	22.21
5	64QAM	1	24	22.33	22.07	22.29
5	64QAM	12	0	21.19	21.18	21.16
5	64QAM	12	7	21.31	21.21	21.25
5	64QAM	12	13	21.07	21.09	21.14
5	64QAM	25	0	21.14	21.08	21.20
Channel				19965	20175	20385



Frequency (MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	23.96	23.94	23.98
3	QPSK	1	8	24.12	24.10	24.19
3	QPSK	1	14	24.06	24.05	23.91
3	QPSK	8	0	23.10	23.07	23.07
3	QPSK	8	4	23.13	23.13	23.16
3	QPSK	8	7	23.14	23.09	23.21
3	QPSK	15	0	23.16	23.08	23.19
3	16QAM	1	0	23.34	22.99	23.14
3	16QAM	1	8	23.30	23.26	23.54
3	16QAM	1	14	22.92	23.46	23.36
3	16QAM	8	0	22.13	22.07	22.06
3	16QAM	8	4	22.22	22.19	22.36
3	16QAM	8	7	22.31	22.24	22.32
3	16QAM	15	0	22.09	22.10	22.31
3	64QAM	1	0	22.29	22.20	22.06
3	64QAM	1	8	22.49	22.40	22.25
3	64QAM	1	14	22.33	22.35	22.38
3	64QAM	8	0	21.18	21.11	21.21
3	64QAM	8	4	21.20	21.19	21.23
3	64QAM	8	7	21.18	21.07	21.13
3	64QAM	15	0	21.18	21.18	21.31
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	24.01	23.86	23.92
1.4	QPSK	1	3	24.05	23.93	24.09
1.4	QPSK	1	5	23.97	23.96	24.01
1.4	QPSK	3	0	23.99	23.96	23.94
1.4	QPSK	3	1	23.97	24.01	23.98
1.4	QPSK	3	3	24.09	23.93	23.99
1.4	QPSK	6	0	23.04	23.05	23.10
1.4	16QAM	1	0	23.09	23.20	22.84
1.4	16QAM	1	3	23.22	23.41	23.28
1.4	16QAM	1	5	23.13	23.10	23.20
1.4	16QAM	3	0	23.02	23.05	23.00
1.4	16QAM	3	1	23.18	23.05	23.03
1.4	16QAM	3	3	23.16	23.00	23.06
1.4	16QAM	6	0	22.14	22.11	22.06
1.4	64QAM	1	0	22.15	21.75	22.24
1.4	64QAM	1	3	22.30	22.20	22.20
1.4	64QAM	1	5	21.88	22.12	22.14
1.4	64QAM	3	0	22.18	22.16	22.23
1.4	64QAM	3	1	22.30	22.13	21.94
1.4	64QAM	3	3	22.16	22.18	22.24
1.4	64QAM	6	0	21.11	21.05	21.06



<LTE Band 7>

Power Selection				Head		
Transmit Antenna				Ant 0b		
Max. Power				24.8		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	24.33	24.29	24.39
20	QPSK	1	49	24.33	24.28	24.41
20	QPSK	1	99	24.48	24.44	24.46
20	QPSK	50	0	23.41	23.44	23.55
20	QPSK	50	24	23.49	23.49	23.52
20	QPSK	50	50	23.55	23.50	23.49
20	QPSK	100	0	23.48	23.48	23.51
20	16QAM	1	0	23.55	23.55	23.62
20	16QAM	1	49	23.61	23.56	23.66
20	16QAM	1	99	23.71	23.64	23.77
20	16QAM	50	0	22.42	22.46	22.54
20	16QAM	50	24	22.51	22.49	22.55
20	16QAM	50	50	22.56	22.52	22.51
20	16QAM	100	0	22.47	22.47	22.50
20	64QAM	1	0	22.56	22.51	22.62
20	64QAM	1	49	22.55	22.51	22.58
20	64QAM	1	99	22.70	22.61	22.70
20	64QAM	50	0	21.42	21.47	21.53
20	64QAM	50	24	21.52	21.50	21.54
20	64QAM	50	50	21.55	21.53	20.88
20	64QAM	100	0	21.49	21.47	21.53
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	24.11	24.00	24.19
15	QPSK	1	37	24.15	24.22	24.25
15	QPSK	1	74	24.32	24.26	24.31
15	QPSK	36	0	23.26	23.27	23.27
15	QPSK	36	20	23.29	23.29	23.35
15	QPSK	36	39	23.30	23.32	23.35
15	QPSK	75	0	23.32	23.31	23.36
15	16QAM	1	0	23.29	23.62	23.43
15	16QAM	1	37	23.45	23.31	23.03
15	16QAM	1	74	23.23	23.31	23.44
15	16QAM	36	0	22.24	22.29	22.30
15	16QAM	36	20	22.41	22.31	22.32
15	16QAM	36	39	22.40	22.30	22.32
15	16QAM	75	0	22.34	22.24	22.31
15	64QAM	1	0	22.48	22.50	22.05
15	64QAM	1	37	22.40	22.51	22.60
15	64QAM	1	74	22.68	22.60	22.30
15	64QAM	36	0	21.24	21.29	21.33
15	64QAM	36	20	21.30	21.30	21.37
15	64QAM	36	39	21.35	21.25	21.37
15	64QAM	75	0	21.28	21.21	21.47
Channel				20800	21100	21400
Frequency (MHz)				2505	2535	2565
10	QPSK	1	0	23.84	23.73	24.06
10	QPSK	1	25	23.91	24.12	23.87



10	QPSK	1	49	24.16	24.10	24.08
10	QPSK	25	0	23.06	23.05	23.15
10	QPSK	25	12	23.03	23.10	23.11
10	QPSK	25	25	23.09	23.15	23.03
10	QPSK	50	0	23.09	23.12	23.11
10	16QAM	1	0	23.41	23.27	23.13
10	16QAM	1	25	23.54	23.45	23.37
10	16QAM	1	49	23.17	23.21	22.98
10	16QAM	25	0	22.17	22.10	22.11
10	16QAM	25	12	22.17	22.09	22.13
10	16QAM	25	25	22.13	22.07	22.13
10	16QAM	50	0	22.12	22.19	22.15
10	64QAM	1	0	22.02	22.36	22.19
10	64QAM	1	25	22.28	22.29	22.39
10	64QAM	1	49	22.09	22.42	22.12
10	64QAM	25	0	21.14	21.19	21.02
10	64QAM	25	12	21.16	21.15	21.06
10	64QAM	25	25	21.14	21.14	21.18
10	64QAM	50	0	21.13	21.15	21.06
Channel				20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5
5	QPSK	1	0	23.99	24.02	24.06
5	QPSK	1	12	24.15	24.10	24.02
5	QPSK	1	24	24.06	24.12	24.08
5	QPSK	12	0	23.17	23.09	23.21
5	QPSK	12	7	23.29	23.33	23.27
5	QPSK	12	13	23.30	23.28	23.22
5	QPSK	25	0	23.16	23.12	23.16
5	16QAM	1	0	23.42	23.24	22.99
5	16QAM	1	12	23.33	23.32	23.04
5	16QAM	1	24	23.02	23.32	23.04
5	16QAM	12	0	22.17	22.04	22.21
5	16QAM	12	7	22.20	22.40	22.20
5	16QAM	12	13	22.26	22.25	22.31
5	16QAM	25	0	22.15	22.18	22.24
5	64QAM	1	0	22.37	22.15	22.45
5	64QAM	1	12	22.58	22.11	22.15
5	64QAM	1	24	22.44	22.48	22.36
5	64QAM	12	0	21.19	21.28	21.19
5	64QAM	12	7	21.30	21.35	21.35
5	64QAM	12	13	21.28	21.41	21.29
5	64QAM	25	0	21.17	21.21	21.16



Power Selection				Head					
Transmit Antenna				Ant 0c			Ant 1		
Max. Power				23.5			19		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20850	21100	21350	20850	21100	21350
Frequency (MHz)				2510	2535	2560	2510	2535	2560
20	QPSK	1	0	22.89	22.96	23.03	17.86	17.92	17.99
20	QPSK	1	49	22.96	22.98	23.06	17.92	17.94	18.02
20	QPSK	1	99	23.08	23.08	23.13	18.03	18.02	18.11
20	QPSK	50	0	23.01	23.14	23.21	18.00	18.08	18.16
20	QPSK	50	24	23.12	23.15	23.21	18.09	18.11	18.17
20	QPSK	50	50	23.16	23.17	23.22	18.14	18.14	18.18
20	QPSK	100	0	23.12	23.16	23.19	18.07	18.11	18.17
20	16QAM	1	0	23.19	23.24	23.27	18.16	18.16	18.24
20	16QAM	1	49	23.22	23.31	23.35	18.23	18.25	18.32
20	16QAM	1	99	23.37	23.37	23.41	18.32	18.30	18.40
20	16QAM	50	0	22.06	22.16	22.23	18.01	18.11	18.19
20	16QAM	50	24	22.13	22.20	22.26	18.11	18.11	18.22
20	16QAM	50	50	22.17	22.20	22.21	18.17	18.17	18.18
20	16QAM	100	0	22.12	22.16	22.19	18.08	18.12	18.16
20	64QAM	1	0	22.14	22.23	22.26	18.13	18.16	18.19
20	64QAM	1	49	22.20	22.22	22.30	18.18	18.20	18.27
20	64QAM	1	99	22.32	22.32	22.36	18.28	18.30	18.35
20	64QAM	50	0	21.07	21.16	21.26	18.04	18.13	18.23
20	64QAM	50	24	21.15	21.18	21.26	18.15	18.16	18.24
20	64QAM	50	50	21.20	21.21	21.22	18.20	18.20	18.21
20	64QAM	100	0	21.13	21.17	21.20	18.14	18.16	18.21
Channel				20825	21100	21375	20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5	2507.5	2535	2562.5
15	QPSK	1	0	22.85	22.87	23.01	17.76	17.88	17.99
15	QPSK	1	37	22.91	22.94	23.06	17.87	17.87	18.02
15	QPSK	1	74	23.08	23.01	23.13	17.93	17.95	18.04
15	QPSK	36	0	22.93	23.10	23.12	17.97	18.06	18.10
15	QPSK	36	20	23.10	23.05	23.17	17.99	18.07	18.08
15	QPSK	36	39	23.11	23.17	23.12	18.04	18.11	18.10
15	QPSK	75	0	23.03	23.07	23.18	18.01	18.02	18.09
15	16QAM	1	0	23.10	23.24	23.25	18.10	18.09	18.21
15	16QAM	1	37	23.20	23.25	23.29	18.14	18.15	18.32
15	16QAM	1	74	23.34	23.36	23.32	18.30	18.27	18.34
15	16QAM	36	0	22.01	22.11	22.23	17.95	18.10	18.18
15	16QAM	36	20	22.06	22.19	22.20	18.08	18.09	18.15
15	16QAM	36	39	22.08	22.15	22.12	18.14	18.15	18.16
15	16QAM	75	0	22.05	22.07	22.17	18.00	18.06	18.11
15	64QAM	1	0	22.08	22.15	22.22	18.09	18.08	18.11
15	64QAM	1	37	22.20	22.18	22.29	18.14	18.15	18.18
15	64QAM	1	74	22.24	22.25	22.26	18.25	18.22	18.27
15	64QAM	36	0	21.03	21.15	21.26	17.98	18.05	18.18
15	64QAM	36	20	21.07	21.16	21.22	18.09	18.10	18.21
15	64QAM	36	39	21.11	21.12	21.13	18.10	18.19	18.11
15	64QAM	75	0	21.10	21.11	21.13	18.11	18.07	18.19
Channel				20800	21100	21400	20800	21100	21400
Frequency (MHz)				2505	2535	2565	2505	2535	2565
10	QPSK	1	0	22.82	22.88	22.99	17.76	17.86	17.97
10	QPSK	1	25	22.89	22.91	22.96	17.83	17.92	17.99



10	QPSK	1	49	23.07	23.06	23.07	17.96	18.00	18.11
10	QPSK	25	0	22.97	23.09	23.12	17.95	18.02	18.14
10	QPSK	25	12	23.09	23.11	23.12	18.07	18.01	18.12
10	QPSK	25	25	23.15	23.07	23.14	18.10	18.09	18.14
10	QPSK	50	0	23.12	23.14	23.19	18.04	18.01	18.11
10	16QAM	1	0	23.18	23.23	23.27	18.09	18.13	18.20
10	16QAM	1	25	23.19	23.25	23.28	18.23	18.16	18.29
10	16QAM	1	49	23.36	23.37	23.33	18.24	18.30	18.33
10	16QAM	25	0	22.05	22.09	22.18	17.96	18.01	18.11
10	16QAM	25	12	22.12	22.19	22.20	18.05	18.04	18.17
10	16QAM	25	25	22.14	22.18	22.20	18.08	18.13	18.14
10	16QAM	50	0	22.04	22.12	22.09	17.99	18.10	18.11
10	64QAM	1	0	22.11	22.13	22.18	18.03	18.09	18.14
10	64QAM	1	25	22.14	22.21	22.29	18.11	18.20	18.21
10	64QAM	1	49	22.23	22.30	22.30	18.27	18.23	18.32
10	64QAM	25	0	21.05	21.06	21.20	18.03	18.11	18.16
10	64QAM	25	12	21.05	21.13	21.22	18.09	18.07	18.14
10	64QAM	25	25	21.17	21.20	21.20	18.15	18.15	18.13
10	64QAM	50	0	21.10	21.08	21.16	18.04	18.16	18.18
Channel				20775	21100	21425	20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5	2502.5	2535	2567.5
5	QPSK	1	0	22.84	22.87	22.96	17.77	17.92	17.95
5	QPSK	1	12	22.91	22.94	22.98	17.89	17.89	18.01
5	QPSK	1	24	23.02	23.05	23.07	18.01	17.99	18.01
5	QPSK	12	0	22.96	23.09	23.20	17.96	17.99	18.14
5	QPSK	12	7	23.04	23.15	23.12	18.06	18.10	18.10
5	QPSK	12	13	23.09	23.08	23.22	18.14	18.06	18.14
5	QPSK	25	0	23.11	23.10	23.13	18.07	18.03	18.11
5	16QAM	1	0	23.09	23.22	23.24	18.07	18.10	18.15
5	16QAM	1	12	23.15	23.25	23.35	18.14	18.16	18.22
5	16QAM	1	24	23.29	23.27	23.40	18.26	18.30	18.33
5	16QAM	12	0	22.05	22.13	22.14	18.00	18.06	18.19
5	16QAM	12	7	22.03	22.15	22.17	18.08	18.05	18.13
5	16QAM	12	13	22.14	22.11	22.15	18.09	18.13	18.15
5	16QAM	25	0	22.11	22.08	22.12	18.06	18.09	18.13
5	64QAM	1	0	22.07	22.18	22.19	18.11	18.07	18.16
5	64QAM	1	12	22.15	22.18	22.23	18.12	18.17	18.24
5	64QAM	1	24	22.30	22.32	22.27	18.28	18.30	18.29
5	64QAM	12	0	21.01	21.15	21.22	18.00	18.11	18.23
5	64QAM	12	7	21.14	21.16	21.23	18.07	18.06	18.16
5	64QAM	12	13	21.19	21.16	21.13	18.17	18.20	18.13
5	64QAM	25	0	21.10	21.12	21.18	18.07	18.07	18.12





Power Selection				Near body		
Transmit Antenna				Ant 1		
Max. Power				24.8		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	24.33	24.29	24.39
20	QPSK	1	49	24.33	24.28	24.41
20	QPSK	1	99	24.48	24.44	24.46
20	QPSK	50	0	23.41	23.44	23.55
20	QPSK	50	24	23.49	23.49	23.52
20	QPSK	50	50	23.55	23.50	23.49
20	QPSK	100	0	23.48	23.48	23.51
20	16QAM	1	0	23.55	23.55	23.62
20	16QAM	1	49	23.61	23.56	23.66
20	16QAM	1	99	23.71	23.64	23.77
20	16QAM	50	0	22.42	22.46	22.54
20	16QAM	50	24	22.51	22.49	22.55
20	16QAM	50	50	22.56	22.52	22.51
20	16QAM	100	0	22.47	22.47	22.50
20	64QAM	1	0	22.56	22.51	22.62
20	64QAM	1	49	22.55	22.51	22.58
20	64QAM	1	99	22.70	22.61	22.70
20	64QAM	50	0	21.42	21.47	21.53
20	64QAM	50	24	21.52	21.50	21.54
20	64QAM	50	50	21.55	21.53	20.88
20	64QAM	100	0	21.49	21.47	21.53
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	24.11	24.00	24.19
15	QPSK	1	37	24.15	24.22	24.25
15	QPSK	1	74	24.32	24.26	24.31
15	QPSK	36	0	23.26	23.27	23.27
15	QPSK	36	20	23.29	23.29	23.35
15	QPSK	36	39	23.30	23.32	23.35
15	QPSK	75	0	23.32	23.31	23.36
15	16QAM	1	0	23.29	23.62	23.43
15	16QAM	1	37	23.45	23.31	23.03
15	16QAM	1	74	23.23	23.31	23.44
15	16QAM	36	0	22.24	22.29	22.30
15	16QAM	36	20	22.41	22.31	22.32
15	16QAM	36	39	22.40	22.30	22.32
15	16QAM	75	0	22.34	22.24	22.31
15	64QAM	1	0	22.48	22.50	22.05
15	64QAM	1	37	22.40	22.51	22.60
15	64QAM	1	74	22.68	22.60	22.30
15	64QAM	36	0	21.24	21.29	21.33
15	64QAM	36	20	21.30	21.30	21.37
15	64QAM	36	39	21.35	21.25	21.37
15	64QAM	75	0	21.28	21.21	21.47
Channel				20800	21100	21400
Frequency (MHz)				2505	2535	2565
10	QPSK	1	0	23.84	23.73	24.06
10	QPSK	1	25	23.91	24.12	23.87



10	QPSK	1	49	24.16	24.10	24.08
10	QPSK	25	0	23.06	23.05	23.15
10	QPSK	25	12	23.03	23.10	23.11
10	QPSK	25	25	23.09	23.15	23.03
10	QPSK	50	0	23.09	23.12	23.11
10	16QAM	1	0	23.41	23.27	23.13
10	16QAM	1	25	23.54	23.45	23.37
10	16QAM	1	49	23.17	23.21	22.98
10	16QAM	25	0	22.17	22.10	22.11
10	16QAM	25	12	22.17	22.09	22.13
10	16QAM	25	25	22.13	22.07	22.13
10	16QAM	50	0	22.12	22.19	22.15
10	64QAM	1	0	22.02	22.36	22.19
10	64QAM	1	25	22.28	22.29	22.39
10	64QAM	1	49	22.09	22.42	22.12
10	64QAM	25	0	21.14	21.19	21.02
10	64QAM	25	12	21.16	21.15	21.06
10	64QAM	25	25	21.14	21.14	21.18
10	64QAM	50	0	21.13	21.15	21.06
Channel				20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5
5	QPSK	1	0	23.99	24.02	24.06
5	QPSK	1	12	24.15	24.10	24.02
5	QPSK	1	24	24.06	24.12	24.08
5	QPSK	12	0	23.17	23.09	23.21
5	QPSK	12	7	23.29	23.33	23.27
5	QPSK	12	13	23.30	23.28	23.22
5	QPSK	25	0	23.16	23.12	23.16
5	16QAM	1	0	23.42	23.24	22.99
5	16QAM	1	12	23.33	23.32	23.04
5	16QAM	1	24	23.02	23.32	23.04
5	16QAM	12	0	22.17	22.04	22.21
5	16QAM	12	7	22.20	22.40	22.20
5	16QAM	12	13	22.26	22.25	22.31
5	16QAM	25	0	22.15	22.18	22.24
5	64QAM	1	0	22.37	22.15	22.45
5	64QAM	1	12	22.58	22.11	22.15
5	64QAM	1	24	22.44	22.48	22.36
5	64QAM	12	0	21.19	21.28	21.19
5	64QAM	12	7	21.30	21.35	21.35
5	64QAM	12	13	21.28	21.41	21.29
5	64QAM	25	0	21.17	21.21	21.16



Power Selection				Near body					
Transmit Antenna				Ant 0b			Ant 0c		
Max. Power				17.5			23.5		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20850	21100	21350	20850	21100	21350
Frequency (MHz)				2510	2535	2560	2510	2535	2560
20	QPSK	1	0	17.30	17.29	17.29	22.89	22.96	23.03
20	QPSK	1	49	17.29	17.23	17.28	22.96	22.98	23.06
20	QPSK	1	99	17.28	17.28	17.26	23.08	23.08	23.13
20	QPSK	50	0	17.39	17.38	17.38	23.01	23.14	23.21
20	QPSK	50	24	17.38	17.35	17.37	23.12	23.15	23.21
20	QPSK	50	50	17.37	17.36	17.36	23.16	23.17	23.22
20	QPSK	100	0	17.45	17.38	17.44	23.12	23.16	23.19
20	16QAM	1	0	17.49	17.41	17.44	23.19	23.24	23.27
20	16QAM	1	49	17.45	17.49	17.44	23.22	23.31	23.35
20	16QAM	1	99	17.49	17.48	17.50	23.37	23.37	23.41
20	16QAM	50	0	17.39	17.41	17.36	22.06	22.16	22.23
20	16QAM	50	24	17.45	17.42	17.35	22.13	22.20	22.26
20	16QAM	50	50	17.47	17.40	17.33	22.17	22.20	22.21
20	16QAM	100	0	17.40	17.39	17.33	22.12	22.16	22.19
20	64QAM	1	0	17.40	17.47	17.39	22.14	22.23	22.26
20	64QAM	1	49	17.41	17.46	17.44	22.20	22.22	22.30
20	64QAM	1	99	17.41	17.41	17.45	22.32	22.32	22.36
20	64QAM	50	0	17.41	17.41	17.40	21.07	21.16	21.26
20	64QAM	50	24	17.47	17.43	17.39	21.15	21.18	21.26
20	64QAM	50	50	17.48	17.40	17.35	21.20	21.21	21.22
20	64QAM	100	0	17.45	17.39	17.35	21.13	21.17	21.20
Channel				20825	21100	21375	20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5	2507.5	2535	2562.5
15	QPSK	1	0	17.21	17.21	17.24	22.85	22.87	23.01
15	QPSK	1	37	17.26	17.22	17.22	22.91	22.94	23.06
15	QPSK	1	74	17.23	17.29	17.25	23.08	23.01	23.13
15	QPSK	36	0	17.34	17.42	17.45	22.93	23.10	23.12
15	QPSK	36	20	17.35	17.40	17.39	23.10	23.05	23.17
15	QPSK	36	39	17.47	17.36	17.42	23.11	23.17	23.12
15	QPSK	75	0	17.43	17.33	17.37	23.03	23.07	23.18
15	16QAM	1	0	17.42	17.36	17.41	23.10	23.24	23.25
15	16QAM	1	37	17.41	17.48	17.42	23.20	23.25	23.29
15	16QAM	1	74	17.44	17.45	17.42	23.34	23.36	23.32
15	16QAM	36	0	17.37	17.31	17.36	22.01	22.11	22.23
15	16QAM	36	20	17.41	17.33	17.29	22.06	22.19	22.20
15	16QAM	36	39	17.47	17.34	17.32	22.08	22.15	22.12
15	16QAM	75	0	17.38	17.39	17.28	22.05	22.07	22.17
15	64QAM	1	0	17.31	17.45	17.36	22.08	22.15	22.22
15	64QAM	1	37	17.37	17.39	17.36	22.20	22.18	22.29
15	64QAM	1	74	17.40	17.39	17.44	22.24	22.25	22.26
15	64QAM	36	0	17.40	17.35	17.36	21.03	21.15	21.26
15	64QAM	36	20	17.45	17.43	17.32	21.07	21.16	21.22
15	64QAM	36	39	17.44	17.30	17.33	21.11	21.12	21.13
15	64QAM	75	0	17.40	17.38	17.32	21.10	21.11	21.13
Channel				20800	21100	21400	20800	21100	21400
Frequency (MHz)				2505	2535	2565	2505	2535	2565
10	QPSK	1	0	17.25	17.23	17.27	22.82	22.88	22.99
10	QPSK	1	25	17.20	17.23	17.23	22.89	22.91	22.96



10	QPSK	1	49	17.29	17.27	17.32	23.07	23.06	23.07
10	QPSK	25	0	17.39	17.41	17.39	22.97	23.09	23.12
10	QPSK	25	12	17.39	17.36	17.42	23.09	23.11	23.12
10	QPSK	25	25	17.44	17.39	17.40	23.15	23.07	23.14
10	QPSK	50	0	17.38	17.37	17.40	23.12	23.14	23.19
10	16QAM	1	0	17.48	17.38	17.40	23.18	23.23	23.27
10	16QAM	1	25	17.45	17.43	17.44	23.19	23.25	23.28
10	16QAM	1	49	17.45	17.44	17.48	23.36	23.37	23.33
10	16QAM	25	0	17.29	17.41	17.31	22.05	22.09	22.18
10	16QAM	25	12	17.37	17.33	17.28	22.12	22.19	22.20
10	16QAM	25	25	17.42	17.36	17.31	22.14	22.18	22.20
10	16QAM	50	0	17.39	17.38	17.27	22.04	22.12	22.09
10	64QAM	1	0	17.30	17.43	17.39	22.11	22.13	22.18
10	64QAM	1	25	17.32	17.46	17.35	22.14	22.21	22.29
10	64QAM	1	49	17.36	17.32	17.42	22.23	22.30	22.30
10	64QAM	25	0	17.34	17.34	17.32	21.05	21.06	21.20
10	64QAM	25	12	17.47	17.41	17.34	21.05	21.13	21.22
10	64QAM	25	25	17.39	17.37	17.35	21.17	21.20	21.20
10	64QAM	50	0	17.39	17.37	17.27	21.10	21.08	21.16
Channel				20775	21100	21425	20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5	2502.5	2535	2567.5
5	QPSK	1	0	17.24	17.21	17.28	22.84	22.87	22.96
5	QPSK	1	12	17.21	17.18	17.30	22.91	22.94	22.98
5	QPSK	1	24	17.26	17.28	17.31	23.02	23.05	23.07
5	QPSK	12	0	17.29	17.36	17.43	22.96	23.09	23.20
5	QPSK	12	7	17.39	17.43	17.43	23.04	23.15	23.12
5	QPSK	12	13	17.44	17.38	17.35	23.09	23.08	23.22
5	QPSK	25	0	17.42	17.29	17.34	23.11	23.10	23.13
5	16QAM	1	0	17.41	17.31	17.42	23.09	23.22	23.24
5	16QAM	1	12	17.43	17.48	17.39	23.15	23.25	23.35
5	16QAM	1	24	17.39	17.40	17.48	23.29	23.27	23.40
5	16QAM	12	0	17.32	17.36	17.27	22.05	22.13	22.14
5	16QAM	12	7	17.42	17.37	17.29	22.03	22.15	22.17
5	16QAM	12	13	17.44	17.32	17.32	22.14	22.11	22.15
5	16QAM	25	0	17.38	17.35	17.27	22.11	22.08	22.12
5	64QAM	1	0	17.35	17.42	17.30	22.07	22.18	22.19
5	64QAM	1	12	17.41	17.43	17.40	22.15	22.18	22.23
5	64QAM	1	24	17.40	17.40	17.35	22.30	22.32	22.27
5	64QAM	12	0	17.38	17.33	17.32	21.01	21.15	21.22
5	64QAM	12	7	17.46	17.42	17.31	21.14	21.16	21.23
5	64QAM	12	13	17.48	17.40	17.31	21.19	21.16	21.13
5	64QAM	25	0	17.35	17.37	17.25	21.10	21.12	21.18



Power Selection				Hotspot		
Transmit Antenna				Ant 1		
Max. Power				24.8		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	24.33	24.29	24.39
20	QPSK	1	49	24.33	24.28	24.41
20	QPSK	1	99	24.48	24.44	24.46
20	QPSK	50	0	23.41	23.44	23.55
20	QPSK	50	24	23.49	23.49	23.52
20	QPSK	50	50	23.55	23.50	23.49
20	QPSK	100	0	23.48	23.48	23.51
20	16QAM	1	0	23.55	23.55	23.62
20	16QAM	1	49	23.61	23.56	23.66
20	16QAM	1	99	23.71	23.64	23.77
20	16QAM	50	0	22.42	22.46	22.54
20	16QAM	50	24	22.51	22.49	22.55
20	16QAM	50	50	22.56	22.52	22.51
20	16QAM	100	0	22.47	22.47	22.50
20	64QAM	1	0	22.56	22.51	22.62
20	64QAM	1	49	22.55	22.51	22.58
20	64QAM	1	99	22.70	22.61	22.70
20	64QAM	50	0	21.42	21.47	21.53
20	64QAM	50	24	21.52	21.50	21.54
20	64QAM	50	50	21.55	21.53	20.88
20	64QAM	100	0	21.49	21.47	21.53
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	24.11	24.00	24.19
15	QPSK	1	37	24.15	24.22	24.25
15	QPSK	1	74	24.32	24.26	24.31
15	QPSK	36	0	23.26	23.27	23.27
15	QPSK	36	20	23.29	23.29	23.35
15	QPSK	36	39	23.30	23.32	23.35
15	QPSK	75	0	23.32	23.31	23.36
15	16QAM	1	0	23.29	23.62	23.43
15	16QAM	1	37	23.45	23.31	23.03
15	16QAM	1	74	23.23	23.31	23.44
15	16QAM	36	0	22.24	22.29	22.30
15	16QAM	36	20	22.41	22.31	22.32
15	16QAM	36	39	22.40	22.30	22.32
15	16QAM	75	0	22.34	22.24	22.31
15	64QAM	1	0	22.48	22.50	22.05
15	64QAM	1	37	22.40	22.51	22.60
15	64QAM	1	74	22.68	22.60	22.30
15	64QAM	36	0	21.24	21.29	21.33
15	64QAM	36	20	21.30	21.30	21.37
15	64QAM	36	39	21.35	21.25	21.37
15	64QAM	75	0	21.28	21.21	21.47
Channel				20800	21100	21400
Frequency (MHz)				2505	2535	2565
10	QPSK	1	0	23.84	23.73	24.06
10	QPSK	1	25	23.91	24.12	23.87
10	QPSK	1	49	24.16	24.10	24.08



10	QPSK	25	0	23.06	23.05	23.15
10	QPSK	25	12	23.03	23.10	23.11
10	QPSK	25	25	23.09	23.15	23.03
10	QPSK	50	0	23.09	23.12	23.11
10	16QAM	1	0	23.41	23.27	23.13
10	16QAM	1	25	23.54	23.45	23.37
10	16QAM	1	49	23.17	23.21	22.98
10	16QAM	25	0	22.17	22.10	22.11
10	16QAM	25	12	22.17	22.09	22.13
10	16QAM	25	25	22.13	22.07	22.13
10	16QAM	50	0	22.12	22.19	22.15
10	64QAM	1	0	22.02	22.36	22.19
10	64QAM	1	25	22.28	22.29	22.39
10	64QAM	1	49	22.09	22.42	22.12
10	64QAM	25	0	21.14	21.19	21.02
10	64QAM	25	12	21.16	21.15	21.06
10	64QAM	25	25	21.14	21.14	21.18
10	64QAM	50	0	21.13	21.15	21.06
Channel				20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5
5	QPSK	1	0	23.99	24.02	24.06
5	QPSK	1	12	24.15	24.10	24.02
5	QPSK	1	24	24.06	24.12	24.08
5	QPSK	12	0	23.17	23.09	23.21
5	QPSK	12	7	23.29	23.33	23.27
5	QPSK	12	13	23.30	23.28	23.22
5	QPSK	25	0	23.16	23.12	23.16
5	16QAM	1	0	23.42	23.24	22.99
5	16QAM	1	12	23.33	23.32	23.04
5	16QAM	1	24	23.02	23.32	23.04
5	16QAM	12	0	22.17	22.04	22.21
5	16QAM	12	7	22.20	22.40	22.20
5	16QAM	12	13	22.26	22.25	22.31
5	16QAM	25	0	22.15	22.18	22.24
5	64QAM	1	0	22.37	22.15	22.45
5	64QAM	1	12	22.58	22.11	22.15
5	64QAM	1	24	22.44	22.48	22.36
5	64QAM	12	0	21.19	21.28	21.19
5	64QAM	12	7	21.30	21.35	21.35
5	64QAM	12	13	21.28	21.41	21.29
5	64QAM	25	0	21.17	21.21	21.16



Power Selection				Hotspot					
Transmit Antenna				Ant 0b			Ant 0c		
Max. Power				17.5			22		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20850	21100	21350	20850	21100	21350
Frequency (MHz)				2510	2535	2560	2510	2535	2560
20	QPSK	1	0	17.30	17.29	17.29	21.43	21.47	21.53
20	QPSK	1	49	17.29	17.23	17.28	21.44	21.47	21.56
20	QPSK	1	99	17.28	17.28	17.26	21.58	21.57	21.62
20	QPSK	50	0	17.39	17.38	17.38	21.54	21.63	21.69
20	QPSK	50	24	17.38	17.35	17.37	21.63	21.66	21.69
20	QPSK	50	50	17.37	17.36	17.36	21.69	21.68	21.70
20	QPSK	100	0	17.45	17.38	17.44	21.62	21.65	21.68
20	16QAM	1	0	17.49	17.41	17.44	21.71	21.73	21.80
20	16QAM	1	49	17.45	17.49	17.44	21.75	21.75	21.82
20	16QAM	1	99	17.49	17.48	17.50	21.84	21.83	21.92
20	16QAM	50	0	17.39	17.41	17.36	21.57	21.64	21.76
20	16QAM	50	24	17.45	17.42	17.35	21.68	21.70	21.76
20	16QAM	50	50	17.47	17.40	17.33	21.73	21.71	21.70
20	16QAM	100	0	17.40	17.39	17.33	21.64	21.67	21.70
20	64QAM	1	0	17.40	17.47	17.39	21.69	21.69	21.75
20	64QAM	1	49	17.41	17.46	17.44	21.73	21.70	21.77
20	64QAM	1	99	17.41	17.41	17.45	21.85	21.79	21.87
20	64QAM	50	0	17.41	17.41	17.40	21.11	21.17	21.24
20	64QAM	50	24	17.47	17.43	17.39	21.20	21.21	21.26
20	64QAM	50	50	17.48	17.40	17.35	21.25	21.23	21.22
20	64QAM	100	0	17.45	17.39	17.35	21.18	21.20	21.23
Channel				20825	21100	21375	20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5	2507.5	2535	2562.5
15	QPSK	1	0	17.21	17.21	17.24	21.33	21.47	21.53
15	QPSK	1	37	17.26	17.22	17.22	21.34	21.45	21.56
15	QPSK	1	74	17.23	17.29	17.25	21.58	21.50	21.60
15	QPSK	36	0	17.34	17.42	17.45	21.44	21.63	21.65
15	QPSK	36	20	17.35	17.40	17.39	21.55	21.64	21.61
15	QPSK	36	39	17.47	17.36	17.42	21.61	21.64	21.69
15	QPSK	75	0	17.43	17.33	17.37	21.57	21.56	21.62
15	16QAM	1	0	17.42	17.36	17.41	21.65	21.73	21.73
15	16QAM	1	37	17.41	17.48	17.42	21.68	21.72	21.76
15	16QAM	1	74	17.44	17.45	17.42	21.77	21.82	21.83
15	16QAM	36	0	17.37	17.31	17.36	21.56	21.63	21.66
15	16QAM	36	20	17.41	17.33	17.29	21.66	21.64	21.70
15	16QAM	36	39	17.47	17.34	17.32	21.72	21.70	21.69
15	16QAM	75	0	17.38	17.39	17.28	21.64	21.65	21.61
15	64QAM	1	0	17.31	17.45	17.36	21.69	21.59	21.66
15	64QAM	1	37	17.37	17.39	17.36	21.71	21.70	21.77
15	64QAM	1	74	17.40	17.39	17.44	21.85	21.73	21.86
15	64QAM	36	0	17.40	17.35	17.36	21.05	21.17	21.18
15	64QAM	36	20	17.45	17.43	17.32	21.14	21.13	21.25
15	64QAM	36	39	17.44	17.30	17.33	21.15	21.20	21.15
15	64QAM	75	0	17.40	17.38	17.32	21.09	21.10	21.13
Channel				20800	21100	21400	20800	21100	21400
Frequency (MHz)				2505	2535	2565	2505	2535	2565
10	QPSK	1	0	17.25	17.23	17.27	21.34	21.42	21.52
10	QPSK	1	25	17.20	17.23	17.23	21.42	21.41	21.53



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10	QPSK	1	49	17.29	17.27	17.32	21.51	21.57	21.54
10	QPSK	25	0	17.39	17.41	17.39	21.53	21.53	21.64
10	QPSK	25	12	17.39	17.36	17.42	21.57	21.59	21.62
10	QPSK	25	25	17.44	17.39	17.40	21.66	21.63	21.61
10	QPSK	50	0	17.38	17.37	17.40	21.62	21.63	21.63
10	16QAM	1	0	17.48	17.38	17.40	21.66	21.69	21.78
10	16QAM	1	25	17.45	17.43	17.44	21.67	21.75	21.76
10	16QAM	1	49	17.45	17.44	17.48	21.77	21.77	21.82
10	16QAM	25	0	17.29	17.41	17.31	21.48	21.57	21.70
10	16QAM	25	12	17.37	17.33	17.28	21.60	21.61	21.73
10	16QAM	25	25	17.42	17.36	17.31	21.65	21.66	21.66
10	16QAM	50	0	17.39	17.38	17.27	21.58	21.60	21.66
10	64QAM	1	0	17.30	17.43	17.39	21.66	21.68	21.70
10	64QAM	1	25	17.32	17.46	17.35	21.67	21.64	21.69
10	64QAM	1	49	17.36	17.32	17.42	21.85	21.78	21.77
10	64QAM	25	0	17.34	17.34	17.32	21.05	21.10	21.15
10	64QAM	25	12	17.47	17.41	17.34	21.13	21.13	21.19
10	64QAM	25	25	17.39	17.37	17.35	21.20	21.22	21.16
10	64QAM	50	0	17.39	17.37	17.27	21.08	21.20	21.18
Channel				20775	21100	21425	20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5	2502.5	2535	2567.5
5	QPSK	1	0	17.24	17.21	17.28	21.42	21.39	21.47
5	QPSK	1	12	17.21	17.18	17.30	21.35	21.41	21.53
5	QPSK	1	24	17.26	17.28	17.31	21.57	21.56	21.53
5	QPSK	12	0	17.29	17.36	17.43	21.53	21.55	21.65
5	QPSK	12	7	17.39	17.43	17.43	21.54	21.62	21.66
5	QPSK	12	13	17.44	17.38	17.35	21.62	21.67	21.61
5	QPSK	25	0	17.42	17.29	17.34	21.60	21.55	21.68
5	16QAM	1	0	17.41	17.31	17.42	21.69	21.68	21.74
5	16QAM	1	12	17.43	17.48	17.39	21.68	21.71	21.76
5	16QAM	1	24	17.39	17.40	17.48	21.75	21.82	21.89
5	16QAM	12	0	17.32	17.36	17.27	21.57	21.55	21.74
5	16QAM	12	7	17.42	17.37	17.29	21.68	21.69	21.72
5	16QAM	12	13	17.44	17.32	17.32	21.67	21.69	21.64
5	16QAM	25	0	17.38	17.35	17.27	21.56	21.57	21.68
5	64QAM	1	0	17.35	17.42	17.30	21.64	21.65	21.66
5	64QAM	1	12	17.41	17.43	17.40	21.67	21.61	21.72
5	64QAM	1	24	17.40	17.40	17.35	21.76	21.79	21.84
5	64QAM	12	0	17.38	17.33	17.32	21.04	21.13	21.24
5	64QAM	12	7	17.46	17.42	17.31	21.13	21.13	21.25
5	64QAM	12	13	17.48	17.40	17.31	21.18	21.22	21.17
5	64QAM	25	0	17.35	17.37	17.25	21.16	21.16	21.17





**<LTE Band 12>**

Power Selection				Head					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			23.5		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23060	23095	23130	23060	23095	23130
Frequency (MHz)				704	707.5	711	704	707.5	711
10	QPSK	1	0	24.51	24.52	24.68	22.73	22.67	22.75
10	QPSK	1	25	24.60	24.58	24.55	22.82	22.72	22.80
10	QPSK	1	49	24.64	24.56	24.58	22.90	22.73	22.89
10	QPSK	25	0	23.72	23.69	23.73	22.82	22.81	22.79
10	QPSK	25	12	23.72	23.71	23.69	22.85	22.84	22.84
10	QPSK	25	25	23.71	23.70	23.69	22.82	22.82	22.82
10	QPSK	50	0	23.71	23.70	23.72	22.85	22.82	22.81
10	16QAM	1	0	23.89	23.87	23.94	23.06	23.02	23.04
10	16QAM	1	25	23.90	23.87	23.87	23.12	23.12	23.15
10	16QAM	1	49	23.98	23.95	23.82	23.18	23.21	23.14
10	16QAM	25	0	22.71	22.72	22.70	22.48	22.47	22.44
10	16QAM	25	12	22.74	22.74	22.74	22.50	22.49	22.49
10	16QAM	25	25	22.73	22.75	22.69	22.46	22.49	22.46
10	16QAM	50	0	22.75	22.73	22.73	22.49	22.45	22.47
10	64QAM	1	0	22.78	22.75	22.88	22.59	22.56	22.52
10	64QAM	1	25	22.85	22.86	22.84	22.55	22.57	22.58
10	64QAM	1	49	22.87	22.85	22.81	22.70	22.74	22.57
10	64QAM	25	0	21.72	21.74	21.71	21.50	21.47	21.46
10	64QAM	25	12	21.77	21.77	21.74	21.53	21.50	21.53
10	64QAM	25	25	21.76	21.76	21.71	21.52	21.48	21.49
10	64QAM	50	0	21.74	21.76	21.76	21.50	21.50	21.50
Channel				23035	23095	23155	23035	23095	23155
Frequency (MHz)				701.5	707.5	713.5	701.5	707.5	713.5
5	QPSK	1	0	24.50	24.52	24.52	22.69	22.74	22.65
5	QPSK	1	12	24.65	24.64	24.62	22.81	22.81	22.71
5	QPSK	1	24	24.66	24.65	24.62	22.88	22.83	22.86
5	QPSK	12	0	23.64	23.64	23.63	22.86	22.83	22.83
5	QPSK	12	7	23.79	23.77	23.68	22.97	22.95	22.95
5	QPSK	12	13	23.74	23.76	23.74	22.91	22.93	22.87
5	QPSK	25	0	23.75	23.69	23.66	22.96	22.85	22.85
5	16QAM	1	0	23.82	23.78	23.84	22.99	22.95	22.94
5	16QAM	1	12	23.95	24.00	23.93	23.08	23.05	23.07
5	16QAM	1	24	23.90	23.96	23.84	23.18	23.21	23.10
5	16QAM	12	0	22.70	22.71	22.71	22.42	22.38	22.36
5	16QAM	12	7	22.81	22.85	22.70	22.40	22.48	22.40
5	16QAM	12	13	22.76	22.78	22.73	22.36	22.47	22.37
5	16QAM	25	0	22.73	22.72	22.64	22.39	22.40	22.42
5	64QAM	1	0	22.79	22.76	22.82	22.51	22.48	22.44
5	64QAM	1	12	22.89	22.92	22.91	22.46	22.50	22.56
5	64QAM	1	24	22.89	22.90	22.82	22.64	22.66	22.53
5	64QAM	12	0	21.72	21.73	21.75	21.45	21.44	21.38
5	64QAM	12	7	21.88	21.87	21.75	21.47	21.44	21.49
5	64QAM	12	13	21.83	21.84	21.75	21.44	21.41	21.41
5	64QAM	25	0	21.75	21.68	21.67	21.41	21.46	21.45
Channel				23025	23095	23165	23025	23095	23165
Frequency (MHz)				700.5	707.5	714.5	700.5	707.5	714.5
3	QPSK	1	0	24.52	24.52	24.47	22.64	22.77	22.68



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3	QPSK	1	8	24.67	24.66	24.67	22.76	22.72	22.79
3	QPSK	1	14	24.63	24.59	24.59	22.81	22.81	22.82
3	QPSK	8	0	23.66	23.63	23.60	22.93	22.89	22.85
3	QPSK	8	4	23.76	23.75	23.66	22.90	22.86	22.86
3	QPSK	8	7	23.73	23.71	23.68	22.87	22.92	22.94
3	QPSK	15	0	23.75	23.67	23.61	22.87	22.92	22.85
3	16QAM	1	0	23.82	23.84	23.82	22.96	22.95	22.94
3	16QAM	1	8	24.00	23.97	23.89	23.10	23.04	23.14
3	16QAM	1	14	23.88	23.89	23.82	23.12	23.13	23.13
3	16QAM	8	0	22.76	22.72	22.69	22.43	22.38	22.38
3	16QAM	8	4	22.84	22.81	22.75	22.49	22.41	22.42
3	16QAM	8	7	22.80	22.78	22.71	22.46	22.47	22.42
3	16QAM	15	0	22.74	22.71	22.65	22.43	22.38	22.46
3	64QAM	1	0	22.82	22.76	22.77	22.50	22.50	22.52
3	64QAM	1	8	22.98	22.97	22.92	22.46	22.53	22.52
3	64QAM	1	14	22.85	22.88	22.81	22.65	22.72	22.48
3	64QAM	8	0	21.72	21.74	21.72	21.41	21.42	21.36
3	64QAM	8	4	21.82	21.84	21.71	21.44	21.46	21.43
3	64QAM	8	7	21.78	21.80	21.71	21.50	21.40	21.46
3	64QAM	15	0	21.74	21.68	21.66	21.47	21.40	21.41
Channel				23017	23095	23173	23017	23095	23173
Frequency (MHz)				699.7	707.5	715.3	699.7	707.5	715.3
1.4	QPSK	1	0	24.50	24.51	24.47	22.74	22.71	22.73
1.4	QPSK	1	3	24.66	24.64	24.60	22.89	22.85	22.87
1.4	QPSK	1	5	24.56	24.55	24.55	22.79	22.77	22.79
1.4	QPSK	3	0	24.60	24.53	24.52	22.77	22.78	22.75
1.4	QPSK	3	1	24.63	24.60	24.54	22.91	22.80	22.81
1.4	QPSK	3	3	24.63	24.58	24.57	22.86	22.83	22.84
1.4	QPSK	6	0	23.66	23.60	23.59	22.91	22.90	22.85
1.4	16QAM	1	0	23.83	23.82	23.73	23.06	23.04	23.00
1.4	16QAM	1	3	23.93	23.91	23.86	23.20	23.16	23.11
1.4	16QAM	1	5	23.85	23.86	23.75	23.10	23.10	23.04
1.4	16QAM	3	0	23.66	23.63	23.52	22.84	22.82	22.77
1.4	16QAM	3	1	23.72	23.64	23.57	22.94	22.87	22.85
1.4	16QAM	3	3	23.66	23.64	23.58	22.90	22.87	22.83
1.4	16QAM	6	0	22.75	22.69	22.65	22.53	22.53	22.41
1.4	64QAM	1	0	22.76	22.76	22.69	22.55	22.50	22.48
1.4	64QAM	1	3	22.91	22.86	22.79	22.63	22.63	22.58
1.4	64QAM	1	5	22.80	22.81	22.73	22.56	22.57	22.53
1.4	64QAM	3	0	22.82	22.74	22.66	22.55	22.46	22.50
1.4	64QAM	3	1	22.89	22.81	22.69	22.62	22.52	22.56
1.4	64QAM	3	3	22.82	22.80	22.74	22.56	22.55	22.53
1.4	64QAM	6	0	21.68	21.60	21.57	21.48	21.44	21.37



Power Selection				Near body / Hotspot					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			25		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23060	23095	23130	23060	23095	23130
Frequency (MHz)				704	707.5	711	704	707.5	711
10	QPSK	1	0	24.51	24.52	24.68	24.51	24.52	24.68
10	QPSK	1	25	24.60	24.58	24.55	24.60	24.58	24.55
10	QPSK	1	49	24.64	24.56	24.58	24.64	24.56	24.58
10	QPSK	25	0	23.72	23.69	23.73	23.72	23.69	23.73
10	QPSK	25	12	23.72	23.71	23.69	23.72	23.71	23.69
10	QPSK	25	25	23.71	23.70	23.69	23.71	23.70	23.69
10	QPSK	50	0	23.71	23.70	23.72	23.71	23.70	23.72
10	16QAM	1	0	23.89	23.87	23.94	23.89	23.87	23.94
10	16QAM	1	25	23.90	23.87	23.87	23.90	23.87	23.87
10	16QAM	1	49	23.98	23.95	23.82	23.98	23.95	23.82
10	16QAM	25	0	22.71	22.72	22.70	22.71	22.72	22.70
10	16QAM	25	12	22.74	22.74	22.74	22.74	22.74	22.74
10	16QAM	25	25	22.73	22.75	22.69	22.73	22.75	22.69
10	16QAM	50	0	22.75	22.73	22.73	22.75	22.73	22.73
10	64QAM	1	0	22.78	22.75	22.88	22.78	22.75	22.88
10	64QAM	1	25	22.85	22.86	22.84	22.85	22.86	22.84
10	64QAM	1	49	22.87	22.85	22.81	22.87	22.85	22.81
10	64QAM	25	0	21.72	21.74	21.71	21.72	21.74	21.71
10	64QAM	25	12	21.77	21.77	21.74	21.77	21.77	21.74
10	64QAM	25	25	21.76	21.76	21.71	21.76	21.76	21.71
10	64QAM	50	0	21.74	21.76	21.76	21.74	21.76	21.76
Channel				23035	23095	23155	23035	23095	23155
Frequency (MHz)				701.5	707.5	713.5	701.5	707.5	713.5
5	QPSK	1	0	24.50	24.52	24.52	24.50	24.52	24.52
5	QPSK	1	12	24.65	24.64	24.62	24.65	24.64	24.62
5	QPSK	1	24	24.66	24.65	24.62	24.66	24.65	24.62
5	QPSK	12	0	23.64	23.64	23.63	23.64	23.64	23.63
5	QPSK	12	7	23.79	23.77	23.68	23.79	23.77	23.68
5	QPSK	12	13	23.74	23.76	23.74	23.74	23.76	23.74
5	QPSK	25	0	23.75	23.69	23.66	23.75	23.69	23.66
5	16QAM	1	0	23.82	23.78	23.84	23.82	23.78	23.84
5	16QAM	1	12	23.95	24.00	23.93	23.95	24.00	23.93
5	16QAM	1	24	23.90	23.96	23.84	23.90	23.96	23.84
5	16QAM	12	0	22.70	22.71	22.71	22.70	22.71	22.71
5	16QAM	12	7	22.81	22.85	22.70	22.81	22.85	22.70
5	16QAM	12	13	22.76	22.78	22.73	22.76	22.78	22.73
5	16QAM	25	0	22.73	22.72	22.64	22.73	22.72	22.64
5	64QAM	1	0	22.79	22.76	22.82	22.79	22.76	22.82
5	64QAM	1	12	22.89	22.92	22.91	22.89	22.92	22.91
5	64QAM	1	24	22.89	22.90	22.82	22.89	22.90	22.82
5	64QAM	12	0	21.72	21.73	21.75	21.72	21.73	21.75
5	64QAM	12	7	21.88	21.87	21.75	21.88	21.87	21.75
5	64QAM	12	13	21.83	21.84	21.75	21.83	21.84	21.75
5	64QAM	25	0	21.75	21.68	21.67	21.75	21.68	21.67
Channel				23025	23095	23165	23025	23095	23165
Frequency (MHz)				700.5	707.5	714.5	700.5	707.5	714.5
3	QPSK	1	0	24.52	24.52	24.47	24.52	24.52	24.47
3	QPSK	1	8	24.67	24.66	24.67	24.67	24.66	24.67



3	QPSK	1	14	24.63	24.59	24.59	24.63	24.59	24.59
3	QPSK	8	0	23.66	23.63	23.60	23.66	23.63	23.60
3	QPSK	8	4	23.76	23.75	23.66	23.76	23.75	23.66
3	QPSK	8	7	23.73	23.71	23.68	23.73	23.71	23.68
3	QPSK	15	0	23.75	23.67	23.61	23.75	23.67	23.61
3	16QAM	1	0	23.82	23.84	23.82	23.82	23.84	23.82
3	16QAM	1	8	24.00	23.97	23.89	24.00	23.97	23.89
3	16QAM	1	14	23.88	23.89	23.82	23.88	23.89	23.82
3	16QAM	8	0	22.76	22.72	22.69	22.76	22.72	22.69
3	16QAM	8	4	22.84	22.81	22.75	22.84	22.81	22.75
3	16QAM	8	7	22.80	22.78	22.71	22.80	22.78	22.71
3	16QAM	15	0	22.74	22.71	22.65	22.74	22.71	22.65
3	64QAM	1	0	22.82	22.76	22.77	22.82	22.76	22.77
3	64QAM	1	8	22.98	22.97	22.92	22.98	22.97	22.92
3	64QAM	1	14	22.85	22.88	22.81	22.85	22.88	22.81
3	64QAM	8	0	21.72	21.74	21.72	21.72	21.74	21.72
3	64QAM	8	4	21.82	21.84	21.71	21.82	21.84	21.71
3	64QAM	8	7	21.78	21.80	21.71	21.78	21.80	21.71
3	64QAM	15	0	21.74	21.68	21.66	21.74	21.68	21.66
Channel				23017	23095	23173	23017	23095	23173
Frequency (MHz)				699.7	707.5	715.3	699.7	707.5	715.3
1.4	QPSK	1	0	24.50	24.51	24.47	24.50	24.51	24.47
1.4	QPSK	1	3	24.66	24.64	24.60	24.66	24.64	24.60
1.4	QPSK	1	5	24.56	24.55	24.55	24.56	24.55	24.55
1.4	QPSK	3	0	24.60	24.53	24.52	24.60	24.53	24.52
1.4	QPSK	3	1	24.63	24.60	24.54	24.63	24.60	24.54
1.4	QPSK	3	3	24.63	24.58	24.57	24.63	24.58	24.57
1.4	QPSK	6	0	23.66	23.60	23.59	23.66	23.60	23.59
1.4	16QAM	1	0	23.83	23.82	23.73	23.83	23.82	23.73
1.4	16QAM	1	3	23.93	23.91	23.86	23.93	23.91	23.86
1.4	16QAM	1	5	23.85	23.86	23.75	23.85	23.86	23.75
1.4	16QAM	3	0	23.66	23.63	23.52	23.66	23.63	23.52
1.4	16QAM	3	1	23.72	23.64	23.57	23.72	23.64	23.57
1.4	16QAM	3	3	23.66	23.64	23.58	23.66	23.64	23.58
1.4	16QAM	6	0	22.75	22.69	22.65	22.75	22.69	22.65
1.4	64QAM	1	0	22.76	22.76	22.69	22.76	22.76	22.69
1.4	64QAM	1	3	22.91	22.86	22.79	22.91	22.86	22.79
1.4	64QAM	1	5	22.80	22.81	22.73	22.80	22.81	22.73
1.4	64QAM	3	0	22.82	22.74	22.66	22.82	22.74	22.66
1.4	64QAM	3	1	22.89	22.81	22.69	22.89	22.81	22.69
1.4	64QAM	3	3	22.82	22.80	22.74	22.82	22.80	22.74
1.4	64QAM	6	0	21.68	21.60	21.57	21.68	21.60	21.57



<LTE Band 13>

Power Selection				Head					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			23		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23230			23230		
Frequency (MHz)				782			782		
10	QPSK	1	0		24.53			22.31	
10	QPSK	1	25		24.50			22.33	
10	QPSK	1	49		24.47			22.35	
10	QPSK	25	0		23.67			22.43	
10	QPSK	25	12		23.66			22.53	
10	QPSK	25	25		23.64			22.49	
10	QPSK	50	0		23.66			22.51	
10	16QAM	1	0		23.71			22.56	
10	16QAM	1	25		23.76			22.70	
10	16QAM	1	49		23.64			22.59	
10	16QAM	25	0		22.63			22.41	
10	16QAM	25	12		22.64			22.51	
10	16QAM	25	25		22.63			22.50	
10	16QAM	50	0		22.64			22.50	
10	64QAM	1	0		22.21			22.39	
10	64QAM	1	25		22.71			22.65	
10	64QAM	1	49		22.62			22.53	
10	64QAM	25	0		21.64			21.40	
10	64QAM	25	12		21.68			21.51	
10	64QAM	25	25		21.63			21.49	
10	64QAM	50	0		21.66			21.49	
Channel				23205	23230	23255	23205	23230	23255
Frequency (MHz)				779.5	782	784.5	779.5	782	784.5
5	QPSK	1	0	24.46	24.44	24.45	22.13	22.21	22.24
5	QPSK	1	12	24.52	24.50	24.51	22.22	22.19	22.20
5	QPSK	1	24	24.52	24.52	24.49	22.31	22.12	22.16
5	QPSK	12	0	23.62	23.59	23.60	22.25	22.31	22.25
5	QPSK	12	7	23.67	23.68	23.60	22.22	22.28	22.27
5	QPSK	12	13	23.64	23.66	23.63	22.25	22.25	22.22
5	QPSK	25	0	23.70	23.60	23.57	22.33	22.34	22.28
5	16QAM	1	0	23.69	23.67	23.69	22.40	22.58	22.49
5	16QAM	1	12	23.73	23.76	23.71	22.39	22.53	22.42
5	16QAM	1	24	23.74	23.75	23.66	22.54	22.48	22.39
5	16QAM	12	0	22.59	22.61	22.58	22.27	22.31	22.27
5	16QAM	12	7	22.66	22.67	22.59	22.34	22.40	22.30
5	16QAM	12	13	22.67	22.65	22.60	22.21	22.26	22.27
5	16QAM	25	0	22.68	22.61	22.55	22.34	22.27	22.25
5	64QAM	1	0	21.93	22.64	22.64	22.33	22.50	22.44
5	64QAM	1	12	22.70	22.75	22.69	22.46	22.38	22.47
5	64QAM	1	24	22.70	22.73	22.65	22.51	22.40	22.39
5	64QAM	12	0	21.52	21.65	21.64	21.27	21.30	21.37
5	64QAM	12	7	21.70	21.70	21.65	21.32	21.29	21.40
5	64QAM	12	13	21.68	21.68	21.65	21.31	21.34	21.24
5	64QAM	25	0	21.69	21.59	21.59	21.35	21.35	21.28



Power Selection				Near body / Hotspot					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			25		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23230			23230		
Frequency (MHz)				782			782		
10	QPSK	1	0		24.53			24.53	
10	QPSK	1	25		24.50			24.50	
10	QPSK	1	49		24.47			24.47	
10	QPSK	25	0		23.67			23.67	
10	QPSK	25	12		23.66			23.66	
10	QPSK	25	25		23.64			23.64	
10	QPSK	50	0		23.66			23.66	
10	16QAM	1	0		23.71			23.71	
10	16QAM	1	25		23.76			23.76	
10	16QAM	1	49		23.64			23.64	
10	16QAM	25	0		22.63			22.63	
10	16QAM	25	12		22.64			22.64	
10	16QAM	25	25		22.63			22.63	
10	16QAM	50	0		22.64			22.64	
10	64QAM	1	0		22.21			22.21	
10	64QAM	1	25		22.71			22.71	
10	64QAM	1	49		22.62			22.62	
10	64QAM	25	0		21.64			21.64	
10	64QAM	25	12		21.68			21.68	
10	64QAM	25	25		21.63			21.63	
10	64QAM	50	0		21.66			21.66	
Channel				23205	23230	23255	23205	23230	23255
Frequency (MHz)				779.5	782	784.5	779.5	782	784.5
5	QPSK	1	0	24.46	24.44	24.45	24.46	24.44	24.45
5	QPSK	1	12	24.52	24.50	24.51	24.52	24.50	24.51
5	QPSK	1	24	24.52	24.52	24.49	24.52	24.52	24.49
5	QPSK	12	0	23.62	23.59	23.60	23.62	23.59	23.60
5	QPSK	12	7	23.67	23.68	23.60	23.67	23.68	23.60
5	QPSK	12	13	23.64	23.66	23.63	23.64	23.66	23.63
5	QPSK	25	0	23.70	23.60	23.57	23.70	23.60	23.57
5	16QAM	1	0	23.69	23.67	23.69	23.69	23.67	23.69
5	16QAM	1	12	23.73	23.76	23.71	23.73	23.76	23.71
5	16QAM	1	24	23.74	23.75	23.66	23.74	23.75	23.66
5	16QAM	12	0	22.59	22.61	22.58	22.59	22.61	22.58
5	16QAM	12	7	22.66	22.67	22.59	22.66	22.67	22.59
5	16QAM	12	13	22.67	22.65	22.60	22.67	22.65	22.60
5	16QAM	25	0	22.68	22.61	22.55	22.68	22.61	22.55
5	64QAM	1	0	21.93	22.64	22.64	21.93	22.64	22.64
5	64QAM	1	12	22.70	22.75	22.69	22.70	22.75	22.69
5	64QAM	1	24	22.70	22.73	22.65	22.70	22.73	22.65
5	64QAM	12	0	21.52	21.65	21.64	21.52	21.65	21.64
5	64QAM	12	7	21.70	21.70	21.65	21.70	21.70	21.65
5	64QAM	12	13	21.68	21.68	21.65	21.68	21.68	21.65
5	64QAM	25	0	21.69	21.59	21.59	21.69	21.59	21.59



<LTE Band 25>

Power Selection				Head					
Transmit Antenna				Ant 0b			Ant 1		
Max. Power				24.74			19.5		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26140	26340	26590	26140	26340	26590
Frequency (MHz)				1860	1880	1905	1860	1880	1905
20	QPSK	1	0	24.26	24.36	24.23	18.88	19.03	19.02
20	QPSK	1	49	23.92	24.16	24.16	18.77	18.87	18.84
20	QPSK	1	99	24.01	24.02	24.07	18.77	18.88	18.87
20	QPSK	50	0	23.11	23.24	23.25	18.88	19.00	18.92
20	QPSK	50	24	23.18	23.33	23.31	18.94	19.07	19.06
20	QPSK	50	50	23.24	23.28	23.26	18.92	19.03	19.01
20	QPSK	100	0	23.16	23.32	23.29	18.91	19.02	18.98
20	16QAM	1	0	23.36	23.30	23.40	19.15	19.27	19.19
20	16QAM	1	49	23.65	23.33	23.62	19.02	19.13	19.13
20	16QAM	1	99	23.33	23.11	23.34	19.02	19.10	19.15
20	16QAM	50	0	22.22	22.27	22.20	18.90	18.99	18.95
20	16QAM	50	24	22.18	22.35	22.28	18.94	19.07	18.99
20	16QAM	50	50	22.22	22.33	22.39	18.93	19.04	19.04
20	16QAM	100	0	22.22	22.23	22.28	18.89	19.02	18.99
20	64QAM	1	0	22.62	22.15	22.40	19.13	19.26	19.13
20	64QAM	1	49	22.43	22.47	22.57	19.03	19.14	19.10
20	64QAM	1	99	22.40	22.59	22.03	19.05	19.10	19.09
20	64QAM	50	0	21.20	21.39	21.26	18.95	19.05	18.97
20	64QAM	50	24	21.30	21.30	21.37	18.99	19.08	19.03
20	64QAM	50	50	21.21	21.31	21.34	18.96	19.07	19.02
20	64QAM	100	0	21.25	21.29	21.32	18.94	19.05	19.03
Channel				26115	26340	26615	26115	26340	26615
Frequency (MHz)				1857.5	1880	1907.5	1857.5	1880	1907.5
15	QPSK	1	0	24.06	24.34	24.31	18.85	18.95	18.93
15	QPSK	1	37	24.03	24.20	24.22	18.69	18.77	18.84
15	QPSK	1	74	24.08	24.13	24.10	18.72	18.86	18.82
15	QPSK	36	0	23.22	23.29	23.16	18.78	18.99	18.92
15	QPSK	36	20	23.26	23.33	23.29	18.85	19.06	18.99
15	QPSK	36	39	23.22	23.32	23.26	18.83	18.98	18.92
15	QPSK	75	0	23.21	23.32	23.24	18.89	18.92	18.96
15	16QAM	1	0	23.34	23.38	23.43	19.14	19.23	19.16
15	16QAM	1	37	23.43	23.38	23.58	18.97	19.09	19.12
15	16QAM	1	74	23.63	23.49	23.66	18.95	19.03	19.10
15	16QAM	36	0	22.20	22.24	22.26	18.80	18.97	18.87
15	16QAM	36	20	22.16	22.33	22.34	18.84	19.01	18.99
15	16QAM	36	39	22.19	22.31	22.28	18.84	18.96	19.04
15	16QAM	75	0	22.25	22.31	22.28	18.81	18.97	18.91
15	64QAM	1	0	22.16	22.40	22.58	19.12	19.21	19.12
15	64QAM	1	37	22.07	22.51	21.90	18.99	19.11	19.02
15	64QAM	1	74	22.45	22.36	21.90	18.96	19.05	19.08
15	64QAM	36	0	21.22	21.25	21.34	18.92	19.05	18.92
15	64QAM	36	20	21.29	21.30	21.35	18.99	19.01	19.02
15	64QAM	36	39	21.28	21.36	21.38	18.94	19.05	18.92
15	64QAM	75	0	21.20	21.34	21.23	18.93	19.04	18.99
Channel				26090	26340	26640	26090	26340	26640
Frequency (MHz)				1855	1880	1910	1855	1880	1910
10	QPSK	1	0	24.05	24.06	23.90	18.88	18.92	19.01
10	QPSK	1	25	24.12	24.11	23.90	18.76	18.84	18.74



10	QPSK	1	49	23.92	24.13	24.00	18.70	18.86	18.79
10	QPSK	25	0	23.07	23.10	23.07	18.86	18.91	18.82
10	QPSK	25	12	22.99	23.20	23.19	18.89	19.05	18.99
10	QPSK	25	25	23.00	23.14	23.06	18.87	19.00	18.99
10	QPSK	50	0	22.96	23.10	23.10	18.89	18.99	18.96
10	16QAM	1	0	23.42	22.97	23.16	19.11	19.23	19.15
10	16QAM	1	25	22.78	23.50	23.43	18.93	19.09	19.10
10	16QAM	1	49	23.10	23.12	23.21	18.95	19.05	19.12
10	16QAM	25	0	22.08	22.03	22.19	18.82	18.97	18.95
10	16QAM	25	12	22.01	22.16	22.17	18.93	19.05	18.96
10	16QAM	25	25	22.02	22.17	22.05	18.83	18.97	18.97
10	16QAM	50	0	22.05	22.13	22.22	18.82	18.94	18.90
10	64QAM	1	0	22.46	22.32	22.25	19.08	19.20	19.11
10	64QAM	1	25	21.90	22.18	22.31	18.97	19.06	19.02
10	64QAM	1	49	22.30	21.98	21.77	18.99	19.01	19.08
10	64QAM	25	0	21.08	21.12	21.16	18.87	18.96	18.92
10	64QAM	25	12	21.06	21.13	21.10	18.94	18.99	19.02
10	64QAM	25	25	21.01	21.15	21.06	18.95	19.01	18.94
10	64QAM	50	0	21.04	21.08	21.19	18.89	18.98	18.94
Channel				26065	26340	26665	26065	26340	26665
Frequency (MHz)				1852.5	1880	1912.5	1852.5	1880	1912.5
5	QPSK	1	0	24.00	23.96	24.12	18.87	18.93	19.01
5	QPSK	1	12	24.00	24.04	24.11	18.71	18.81	18.81
5	QPSK	1	24	24.04	24.19	24.07	18.72	18.78	18.86
5	QPSK	12	0	23.08	23.09	23.20	18.82	18.93	18.91
5	QPSK	12	7	23.09	23.18	23.16	18.90	19.07	18.99
5	QPSK	12	13	23.13	23.17	23.21	18.92	19.03	18.98
5	QPSK	25	0	23.15	23.23	23.05	18.84	19.01	18.96
5	16QAM	1	0	23.49	23.37	23.20	19.14	19.22	19.12
5	16QAM	1	12	23.17	23.38	23.24	19.00	19.07	19.13
5	16QAM	1	24	22.98	23.66	23.28	19.00	19.02	19.15
5	16QAM	12	0	22.04	22.07	22.09	18.80	18.97	18.92
5	16QAM	12	7	22.16	22.22	22.14	18.88	19.04	18.92
5	16QAM	12	13	22.11	22.22	22.20	18.93	18.96	19.00
5	16QAM	25	0	22.05	22.16	22.10	18.88	18.92	18.94
5	64QAM	1	0	21.89	22.04	22.27	19.04	19.23	19.03
5	64QAM	1	12	22.22	22.50	22.18	18.95	19.11	19.06
5	64QAM	1	24	22.19	22.56	21.47	19.04	19.04	19.02
5	64QAM	12	0	21.13	21.13	21.19	18.95	18.95	18.88
5	64QAM	12	7	21.21	21.26	21.29	18.96	19.00	18.95
5	64QAM	12	13	21.14	21.30	21.26	18.95	18.97	19.00
5	64QAM	25	0	21.14	21.21	21.14	18.91	19.05	18.95
Channel				26055	26340	26675	26055	26340	26675
Frequency (MHz)				1851.5	1880	1913.5	1851.5	1880	1913.5
3	QPSK	1	0	23.89	24.02	23.89	18.78	18.93	18.98
3	QPSK	1	8	24.11	24.26	24.16	18.73	18.81	18.81
3	QPSK	1	14	23.98	24.01	24.10	18.72	18.85	18.79
3	QPSK	8	0	23.03	23.02	23.06	18.87	18.96	18.83
3	QPSK	8	4	23.09	23.17	23.16	18.89	19.00	18.98
3	QPSK	8	7	23.06	23.15	23.17	18.83	19.00	18.91
3	QPSK	15	0	23.09	23.15	23.16	18.89	19.02	18.89
3	16QAM	1	0	23.12	23.05	23.05	19.09	19.21	19.19
3	16QAM	1	8	23.58	23.52	23.68	18.99	19.11	19.11
3	16QAM	1	14	22.95	23.52	23.53	18.99	19.09	19.12
3	16QAM	8	0	22.13	22.11	22.14	18.86	18.99	18.93
3	16QAM	8	4	22.14	22.21	22.22	18.94	19.05	18.92





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3	16QAM	8	7	22.21	22.17	22.16	18.90	19.02	19.04
3	16QAM	15	0	22.14	22.17	22.14	18.81	19.01	18.90
3	64QAM	1	0	21.80	22.19	22.28	19.07	19.19	19.11
3	64QAM	1	8	22.44	22.60	22.15	18.93	19.08	19.03
3	64QAM	1	14	22.41	22.31	21.85	19.05	19.02	19.04
3	64QAM	8	0	21.26	21.14	21.08	18.88	19.01	18.87
3	64QAM	8	4	21.22	21.26	21.17	18.92	18.98	18.98
3	64QAM	8	7	21.24	21.24	21.24	18.89	19.06	18.94
3	64QAM	15	0	21.14	21.18	21.22	18.89	19.01	19.03
Channel				26047	26340	26683	26047	26340	26683
Frequency (MHz)				1850.7	1880	1914.3	1850.7	1880	1914.3
1.4	QPSK	1	0	23.91	23.91	23.91	18.78	18.99	18.98
1.4	QPSK	1	3	23.95	24.08	24.15	18.75	18.77	18.84
1.4	QPSK	1	5	23.88	24.06	24.06	18.76	18.87	18.87
1.4	QPSK	3	0	23.89	24.03	23.98	18.84	18.96	18.87
1.4	QPSK	3	1	24.04	24.14	24.00	18.91	18.98	18.98
1.4	QPSK	3	3	24.02	24.06	24.06	18.85	19.01	19.01
1.4	QPSK	6	0	23.01	23.20	23.09	18.85	18.92	18.96
1.4	16QAM	1	0	23.22	23.06	23.42	19.11	19.20	19.18
1.4	16QAM	1	3	23.13	23.53	23.19	19.01	19.03	19.13
1.4	16QAM	1	5	23.23	23.51	23.14	18.96	19.01	19.08
1.4	16QAM	3	0	22.95	23.10	23.06	18.82	18.95	18.89
1.4	16QAM	3	1	23.00	23.21	22.91	18.94	19.07	18.91
1.4	16QAM	3	3	22.84	23.13	22.94	18.83	19.04	19.02
1.4	16QAM	6	0	21.98	22.17	22.08	18.84	18.98	18.98
1.4	64QAM	1	0	22.08	22.03	21.49	19.10	19.24	19.08
1.4	64QAM	1	3	22.28	22.17	21.40	18.94	19.06	19.10
1.4	64QAM	1	5	21.97	22.36	21.68	19.05	19.04	19.02
1.4	64QAM	3	0	22.26	22.21	21.85	18.91	19.02	18.89
1.4	64QAM	3	1	22.32	22.12	21.89	18.98	19.03	19.00
1.4	64QAM	3	3	22.14	21.96	21.70	18.96	19.04	18.97
1.4	64QAM	6	0	21.05	21.14	21.12	18.91	19.04	18.95



Power Selection				Near body					
Transmit Antenna				Ant 0b			Ant 1		
Max. Power				24.75			24.75		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26140	26340	26590	26140	26340	26590
Frequency (MHz)				1860	1880	1905	1860	1880	1905
20	QPSK	1	0	24.26	24.36	24.23	24.26	24.36	24.23
20	QPSK	1	49	23.92	24.16	24.16	23.92	24.16	24.16
20	QPSK	1	99	24.01	24.02	24.07	24.01	24.02	24.07
20	QPSK	50	0	23.11	23.24	23.25	23.11	23.24	23.25
20	QPSK	50	24	23.18	23.33	23.31	23.18	23.33	23.31
20	QPSK	50	50	23.24	23.28	23.26	23.24	23.28	23.26
20	QPSK	100	0	23.16	23.32	23.29	23.16	23.32	23.29
20	16QAM	1	0	23.36	23.30	23.40	23.36	23.30	23.40
20	16QAM	1	49	23.65	23.33	23.62	23.65	23.33	23.62
20	16QAM	1	99	23.33	23.11	23.34	23.33	23.11	23.34
20	16QAM	50	0	22.22	22.27	22.20	22.22	22.27	22.20
20	16QAM	50	24	22.18	22.35	22.28	22.18	22.35	22.28
20	16QAM	50	50	22.22	22.33	22.39	22.22	22.33	22.39
20	16QAM	100	0	22.22	22.23	22.28	22.22	22.23	22.28
20	64QAM	1	0	22.62	22.15	22.40	22.62	22.15	22.40
20	64QAM	1	49	22.43	22.47	22.57	22.43	22.47	22.57
20	64QAM	1	99	22.40	22.59	22.03	22.40	22.59	22.03
20	64QAM	50	0	21.20	21.39	21.26	21.20	21.39	21.26
20	64QAM	50	24	21.30	21.30	21.37	21.30	21.30	21.37
20	64QAM	50	50	21.21	21.31	21.34	21.21	21.31	21.34
20	64QAM	100	0	21.25	21.29	21.32	21.25	21.29	21.32
Channel				26115	26340	26615	26115	26340	26615
Frequency (MHz)				1857.5	1880	1907.5	1857.5	1880	1907.5
15	QPSK	1	0	24.06	24.34	24.31	24.06	24.34	24.31
15	QPSK	1	37	24.03	24.20	24.22	24.03	24.20	24.22
15	QPSK	1	74	24.08	24.13	24.10	24.08	24.13	24.10
15	QPSK	36	0	23.22	23.29	23.16	23.22	23.29	23.16
15	QPSK	36	20	23.26	23.33	23.29	23.26	23.33	23.29
15	QPSK	36	39	23.22	23.32	23.26	23.22	23.32	23.26
15	QPSK	75	0	23.21	23.32	23.24	23.21	23.32	23.24
15	16QAM	1	0	23.34	23.38	23.43	23.34	23.38	23.43
15	16QAM	1	37	23.43	23.38	23.58	23.43	23.38	23.58
15	16QAM	1	74	23.63	23.49	23.66	23.63	23.49	23.66
15	16QAM	36	0	22.20	22.24	22.26	22.20	22.24	22.26
15	16QAM	36	20	22.16	22.33	22.34	22.16	22.33	22.34
15	16QAM	36	39	22.19	22.31	22.28	22.19	22.31	22.28
15	16QAM	75	0	22.25	22.31	22.28	22.25	22.31	22.28
15	64QAM	1	0	22.16	22.40	22.58	22.16	22.40	22.58
15	64QAM	1	37	22.07	22.51	21.90	22.07	22.51	21.90
15	64QAM	1	74	22.45	22.36	21.90	22.45	22.36	21.90
15	64QAM	36	0	21.22	21.25	21.34	21.22	21.25	21.34
15	64QAM	36	20	21.29	21.30	21.35	21.29	21.30	21.35
15	64QAM	36	39	21.28	21.36	21.38	21.28	21.36	21.38
15	64QAM	75	0	21.20	21.34	21.23	21.20	21.34	21.23
Channel				26090	26340	26640	26090	26340	26640
Frequency (MHz)				1855	1880	1910	1855	1880	1910
10	QPSK	1	0	24.05	24.06	23.90	24.05	24.06	23.90
10	QPSK	1	25	24.12	24.11	23.90	24.12	24.11	23.90



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10	QPSK	1	49	23.92	24.13	24.00	23.92	24.13	24.00
10	QPSK	25	0	23.07	23.10	23.07	23.07	23.10	23.07
10	QPSK	25	12	22.99	23.20	23.19	22.99	23.20	23.19
10	QPSK	25	25	23.00	23.14	23.06	23.00	23.14	23.06
10	QPSK	50	0	22.96	23.10	23.10	22.96	23.10	23.10
10	16QAM	1	0	23.42	22.97	23.16	23.42	22.97	23.16
10	16QAM	1	25	22.78	23.50	23.43	22.78	23.50	23.43
10	16QAM	1	49	23.10	23.12	23.21	23.10	23.12	23.21
10	16QAM	25	0	22.08	22.03	22.19	22.08	22.03	22.19
10	16QAM	25	12	22.01	22.16	22.17	22.01	22.16	22.17
10	16QAM	25	25	22.02	22.17	22.05	22.02	22.17	22.05
10	16QAM	50	0	22.05	22.13	22.22	22.05	22.13	22.22
10	64QAM	1	0	22.46	22.32	22.25	22.46	22.32	22.25
10	64QAM	1	25	21.90	22.18	22.31	21.90	22.18	22.31
10	64QAM	1	49	22.30	21.98	21.77	22.30	21.98	21.77
10	64QAM	25	0	21.08	21.12	21.16	21.08	21.12	21.16
10	64QAM	25	12	21.06	21.13	21.10	21.06	21.13	21.10
10	64QAM	25	25	21.01	21.15	21.06	21.01	21.15	21.06
10	64QAM	50	0	21.04	21.08	21.19	21.04	21.08	21.19
Channel				26065	26340	26665	26065	26340	26665
Frequency (MHz)				1852.5	1880	1912.5	1852.5	1880	1912.5
5	QPSK	1	0	24.00	23.96	24.12	24.00	23.96	24.12
5	QPSK	1	12	24.00	24.04	24.11	24.00	24.04	24.11
5	QPSK	1	24	24.04	24.19	24.07	24.04	24.19	24.07
5	QPSK	12	0	23.08	23.09	23.20	23.08	23.09	23.20
5	QPSK	12	7	23.09	23.18	23.16	23.09	23.18	23.16
5	QPSK	12	13	23.13	23.17	23.21	23.13	23.17	23.21
5	QPSK	25	0	23.15	23.23	23.05	23.15	23.23	23.05
5	16QAM	1	0	23.49	23.37	23.20	23.49	23.37	23.20
5	16QAM	1	12	23.17	23.38	23.24	23.17	23.38	23.24
5	16QAM	1	24	22.98	23.66	23.28	22.98	23.66	23.28
5	16QAM	12	0	22.04	22.07	22.09	22.04	22.07	22.09
5	16QAM	12	7	22.16	22.22	22.14	22.16	22.22	22.14
5	16QAM	12	13	22.11	22.22	22.20	22.11	22.22	22.20
5	16QAM	25	0	22.05	22.16	22.10	22.05	22.16	22.10
5	64QAM	1	0	21.89	22.04	22.27	21.89	22.04	22.27
5	64QAM	1	12	22.22	22.50	22.18	22.22	22.50	22.18
5	64QAM	1	24	22.19	22.56	21.47	22.19	22.56	21.47
5	64QAM	12	0	21.13	21.13	21.19	21.13	21.13	21.19
5	64QAM	12	7	21.21	21.26	21.29	21.21	21.26	21.29
5	64QAM	12	13	21.14	21.30	21.26	21.14	21.30	21.26
5	64QAM	25	0	21.14	21.21	21.14	21.14	21.21	21.14
Channel				26055	26340	26675	26055	26340	26675
Frequency (MHz)				1851.5	1880	1913.5	1851.5	1880	1913.5
3	QPSK	1	0	23.89	24.02	23.89	23.89	24.02	23.89
3	QPSK	1	8	24.11	24.26	24.16	24.11	24.26	24.16
3	QPSK	1	14	23.98	24.01	24.10	23.98	24.01	24.10
3	QPSK	8	0	23.03	23.02	23.06	23.03	23.02	23.06
3	QPSK	8	4	23.09	23.17	23.16	23.09	23.17	23.16
3	QPSK	8	7	23.06	23.15	23.17	23.06	23.15	23.17
3	QPSK	15	0	23.09	23.15	23.16	23.09	23.15	23.16
3	16QAM	1	0	23.12	23.05	23.05	23.12	23.05	23.05
3	16QAM	1	8	23.58	23.52	23.68	23.58	23.52	23.68
3	16QAM	1	14	22.95	23.52	23.53	22.95	23.52	23.53
3	16QAM	8	0	22.13	22.11	22.14	22.13	22.11	22.14
3	16QAM	8	4	22.14	22.21	22.22	22.14	22.21	22.22



3	16QAM	8	7	22.21	22.17	22.16	22.21	22.17	22.16
3	16QAM	15	0	22.14	22.17	22.14	22.14	22.17	22.14
3	64QAM	1	0	21.80	22.19	22.28	21.80	22.19	22.28
3	64QAM	1	8	22.44	22.60	22.15	22.44	22.60	22.15
3	64QAM	1	14	22.41	22.31	21.85	22.41	22.31	21.85
3	64QAM	8	0	21.26	21.14	21.08	21.26	21.14	21.08
3	64QAM	8	4	21.22	21.26	21.17	21.22	21.26	21.17
3	64QAM	8	7	21.24	21.24	21.24	21.24	21.24	21.24
3	64QAM	15	0	21.14	21.18	21.22	21.14	21.18	21.22
Channel				26047	26340	26683	26047	26340	26683
Frequency (MHz)				1850.7	1880	1914.3	1850.7	1880	1914.3
1.4	QPSK	1	0	23.91	23.91	23.91	23.91	23.91	23.91
1.4	QPSK	1	3	23.95	24.08	24.15	23.95	24.08	24.15
1.4	QPSK	1	5	23.88	24.06	24.06	23.88	24.06	24.06
1.4	QPSK	3	0	23.89	24.03	23.98	23.89	24.03	23.98
1.4	QPSK	3	1	24.04	24.14	24.00	24.04	24.14	24.00
1.4	QPSK	3	3	24.02	24.06	24.06	24.02	24.06	24.06
1.4	QPSK	6	0	23.01	23.20	23.09	23.01	23.20	23.09
1.4	16QAM	1	0	23.22	23.06	23.42	23.22	23.06	23.42
1.4	16QAM	1	3	23.13	23.53	23.19	23.13	23.53	23.19
1.4	16QAM	1	5	23.23	23.51	23.14	23.23	23.51	23.14
1.4	16QAM	3	0	22.95	23.10	23.06	22.95	23.10	23.06
1.4	16QAM	3	1	23.00	23.21	22.91	23.00	23.21	22.91
1.4	16QAM	3	3	22.84	23.13	22.94	22.84	23.13	22.94
1.4	16QAM	6	0	21.98	22.17	22.08	21.98	22.17	22.08
1.4	64QAM	1	0	22.08	22.03	21.49	22.08	22.03	21.49
1.4	64QAM	1	3	22.28	22.17	21.40	22.28	22.17	21.40
1.4	64QAM	1	5	21.97	22.36	21.68	21.97	22.36	21.68
1.4	64QAM	3	0	22.26	22.21	21.85	22.26	22.21	21.85
1.4	64QAM	3	1	22.32	22.12	21.89	22.32	22.12	21.89
1.4	64QAM	3	3	22.14	21.96	21.70	22.14	21.96	21.70
1.4	64QAM	6	0	21.05	21.14	21.12	21.05	21.14	21.12



Power Selection				Hotspot					
Transmit Antenna				Ant 0b			Ant 1		
Max. Power				23			23.5		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26140	26340	26590	26140	26340	26590
Frequency (MHz)				1860	1880	1905	1860	1880	1905
20	QPSK	1	0	22.27	22.32	22.33	23.19	23.27	23.19
20	QPSK	1	49	22.15	22.22	22.23	23.06	23.10	23.10
20	QPSK	1	99	22.09	22.20	22.24	23.00	23.08	23.09
20	QPSK	50	0	22.26	22.34	22.35	23.18	23.25	23.21
20	QPSK	50	24	22.27	22.36	22.41	23.20	23.27	23.24
20	QPSK	50	50	22.26	22.35	22.38	23.21	23.28	23.25
20	QPSK	100	0	22.28	22.37	22.38	23.17	23.25	23.23
20	16QAM	1	0	22.59	22.64	22.60	23.44	23.50	23.46
20	16QAM	1	49	22.40	22.49	22.48	23.26	23.35	23.35
20	16QAM	1	99	22.41	22.43	22.47	23.25	23.30	23.36
20	16QAM	50	0	22.10	22.15	22.14	22.18	22.26	22.22
20	16QAM	50	24	22.13	22.19	22.18	22.20	22.26	22.27
20	16QAM	50	50	22.08	22.18	22.17	22.16	22.26	22.26
20	16QAM	100	0	22.09	22.15	22.14	22.16	22.25	22.24
20	64QAM	1	0	22.20	22.20	22.20	22.39	22.49	22.42
20	64QAM	1	49	22.15	22.18	22.19	22.23	22.32	22.34
20	64QAM	1	99	22.16	22.20	22.18	22.22	22.29	22.32
20	64QAM	50	0	21.12	21.18	21.16	21.21	21.26	21.24
20	64QAM	50	24	21.13	21.20	21.20	21.23	21.31	21.29
20	64QAM	50	50	21.11	21.18	21.18	21.20	21.27	21.28
20	64QAM	100	0	21.10	21.18	21.17	21.20	21.28	21.25
Channel				26115	26340	26615	26115	26340	26615
Frequency (MHz)				1857.5	1880	1907.5	1857.5	1880	1907.5
15	QPSK	1	0	22.27	22.25	22.29	23.19	23.17	23.15
15	QPSK	1	37	22.05	22.21	22.16	23.05	23.06	23.00
15	QPSK	1	74	22.06	22.16	22.17	22.99	23.03	23.04
15	QPSK	36	0	22.21	22.29	22.25	23.14	23.19	23.15
15	QPSK	36	20	22.26	22.28	22.39	23.11	23.17	23.17
15	QPSK	36	39	22.19	22.35	22.30	23.09	23.19	23.22
15	QPSK	75	0	22.21	22.36	22.36	23.15	23.23	23.20
15	16QAM	1	0	22.55	22.57	22.51	23.41	23.47	23.39
15	16QAM	1	37	22.39	22.46	22.41	23.18	23.32	23.33
15	16QAM	1	74	22.35	22.34	22.37	23.16	23.26	23.27
15	16QAM	36	0	22.09	22.05	22.09	22.18	22.22	22.16
15	16QAM	36	20	22.06	22.15	22.14	22.11	22.18	22.19
15	16QAM	36	39	22.00	22.08	22.14	22.13	22.17	22.18
15	16QAM	75	0	22.00	22.08	22.12	22.13	22.15	22.16
15	64QAM	1	0	22.12	22.17	22.12	22.38	22.43	22.36
15	64QAM	1	37	22.07	22.09	22.18	22.16	22.31	22.33
15	64QAM	1	74	22.12	22.19	22.17	22.14	22.19	22.26
15	64QAM	36	0	21.11	21.12	21.06	21.14	21.20	21.19
15	64QAM	36	20	21.12	21.13	21.13	21.15	21.24	21.21
15	64QAM	36	39	21.07	21.09	21.16	21.14	21.26	21.19
15	64QAM	75	0	21.02	21.13	21.15	21.18	21.22	21.16
Channel				26090	26340	26640	26090	26340	26640
Frequency (MHz)				1855	1880	1910	1855	1880	1910
10	QPSK	1	0	22.20	22.31	22.32	23.09	23.27	23.14
10	QPSK	1	25	22.08	22.12	22.15	23.01	23.08	23.01



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10	QPSK	1	49	22.09	22.13	22.22	22.96	23.03	23.09
10	QPSK	25	0	22.19	22.29	22.27	23.12	23.25	23.20
10	QPSK	25	12	22.21	22.27	22.40	23.20	23.20	23.24
10	QPSK	25	25	22.20	22.25	22.34	23.16	23.24	23.16
10	QPSK	50	0	22.24	22.29	22.33	23.14	23.24	23.18
10	16QAM	1	0	22.59	22.62	22.51	23.35	23.48	23.38
10	16QAM	1	25	22.38	22.49	22.48	23.23	23.32	23.30
10	16QAM	1	49	22.37	22.34	22.41	23.21	23.23	23.36
10	16QAM	25	0	22.06	22.11	22.12	22.11	22.23	22.22
10	16QAM	25	12	22.10	22.13	22.10	22.14	22.20	22.22
10	16QAM	25	25	22.00	22.08	22.17	22.09	22.17	22.18
10	16QAM	50	0	22.06	22.14	22.07	22.10	22.25	22.24
10	64QAM	1	0	22.18	22.12	22.13	22.34	22.39	22.42
10	64QAM	1	25	22.11	22.12	22.14	22.23	22.22	22.33
10	64QAM	1	49	22.16	22.10	22.09	22.22	22.27	22.25
10	64QAM	25	0	21.11	21.17	21.16	21.16	21.22	21.24
10	64QAM	25	12	21.13	21.19	21.19	21.18	21.28	21.26
10	64QAM	25	25	21.10	21.12	21.10	21.13	21.25	21.25
10	64QAM	50	0	21.03	21.15	21.12	21.12	21.21	21.22
Channel				26065	26340	26665	26065	26340	26665
Frequency (MHz)				1852.5	1880	1912.5	1852.5	1880	1912.5
5	QPSK	1	0	22.20	22.32	22.23	23.16	23.17	23.10
5	QPSK	1	12	22.08	22.13	22.13	22.96	23.01	23.04
5	QPSK	1	24	22.02	22.11	22.17	23.00	23.02	23.01
5	QPSK	12	0	22.24	22.25	22.34	23.15	23.21	23.14
5	QPSK	12	7	22.22	22.28	22.37	23.14	23.20	23.24
5	QPSK	12	13	22.25	22.26	22.29	23.06	23.24	23.23
5	QPSK	25	0	22.25	22.32	22.32	23.14	23.15	23.21
5	16QAM	1	0	22.52	22.58	22.57	23.39	23.41	23.43
5	16QAM	1	12	22.34	22.47	22.44	23.19	23.32	23.34
5	16QAM	1	24	22.36	22.38	22.41	23.25	23.29	23.26
5	16QAM	12	0	22.02	22.05	22.04	22.12	22.18	22.14
5	16QAM	12	7	22.05	22.09	22.10	22.16	22.17	22.22
5	16QAM	12	13	22.05	22.17	22.10	22.09	22.18	22.17
5	16QAM	25	0	22.02	22.13	22.08	22.09	22.21	22.15
5	64QAM	1	0	22.18	22.19	22.10	22.39	22.42	22.41
5	64QAM	1	12	22.14	22.08	22.17	22.13	22.27	22.29
5	64QAM	1	24	22.13	22.18	22.12	22.20	22.29	22.22
5	64QAM	12	0	21.10	21.14	21.09	21.13	21.18	21.17
5	64QAM	12	7	21.08	21.16	21.20	21.15	21.30	21.21
5	64QAM	12	13	21.06	21.15	21.17	21.12	21.24	21.28
5	64QAM	25	0	21.10	21.09	21.16	21.13	21.27	21.16
Channel				26055	26340	26675	26055	26340	26675
Frequency (MHz)				1851.5	1880	1913.5	1851.5	1880	1913.5
3	QPSK	1	0	22.20	22.26	22.33	23.19	23.23	23.15
3	QPSK	1	8	22.11	22.17	22.23	22.96	23.07	23.09
3	QPSK	1	14	22.04	22.10	22.23	22.95	23.04	23.07
3	QPSK	8	0	22.23	22.25	22.35	23.18	23.25	23.18
3	QPSK	8	4	22.24	22.36	22.32	23.10	23.25	23.24
3	QPSK	8	7	22.24	22.34	22.35	23.11	23.18	23.19
3	QPSK	15	0	22.19	22.36	22.28	23.15	23.20	23.20
3	16QAM	1	0	22.57	22.60	22.50	23.35	23.40	23.37
3	16QAM	1	8	22.36	22.40	22.39	23.21	23.29	23.29
3	16QAM	1	14	22.34	22.42	22.37	23.22	23.25	23.30
3	16QAM	8	0	22.06	22.05	22.13	22.12	22.17	22.16
3	16QAM	8	4	22.12	22.19	22.16	22.19	22.23	22.24



3	16QAM	8	7	22.08	22.12	22.13	22.11	22.25	22.23
3	16QAM	15	0	22.06	22.06	22.09	22.16	22.24	22.21
3	64QAM	1	0	22.17	22.10	22.20	22.30	22.49	22.32
3	64QAM	1	8	22.09	22.15	22.16	22.14	22.27	22.32
3	64QAM	1	14	22.08	22.15	22.16	22.16	22.27	22.32
3	64QAM	8	0	21.05	21.18	21.10	21.18	21.16	21.18
3	64QAM	8	4	21.08	21.18	21.13	21.16	21.22	21.29
3	64QAM	8	7	21.03	21.14	21.18	21.15	21.25	21.23
3	64QAM	15	0	21.09	21.13	21.17	21.20	21.28	21.24
Channel				26047	26340	26683	26047	26340	26683
Frequency (MHz)				1850.7	1880	1914.3	1850.7	1880	1914.3
1.4	QPSK	1	0	22.27	22.23	22.30	22.82	22.88	22.76
1.4	QPSK	1	3	22.15	22.17	22.16	22.91	22.96	22.95
1.4	QPSK	1	5	22.09	22.10	22.20	22.85	22.91	22.88
1.4	QPSK	3	0	22.26	22.28	22.32	22.86	22.92	22.81
1.4	QPSK	3	1	22.21	22.33	22.41	22.93	22.96	22.90
1.4	QPSK	3	3	22.22	22.28	22.34	22.88	22.91	22.91
1.4	QPSK	6	0	22.18	22.27	22.31	22.98	22.99	22.94
1.4	16QAM	1	0	22.52	22.59	22.57	23.06	23.11	23.02
1.4	16QAM	1	3	22.35	22.40	22.46	23.18	23.20	23.19
1.4	16QAM	1	5	22.33	22.41	22.42	23.09	23.07	23.11
1.4	16QAM	3	0	22.24	22.30	22.35	22.88	22.92	22.88
1.4	16QAM	3	1	22.56	22.56	22.53	22.95	23.00	22.93
1.4	16QAM	3	3	22.38	22.39	22.41	22.91	22.93	22.91
1.4	16QAM	6	0	22.04	22.06	22.08	22.02	22.07	22.01
1.4	64QAM	1	0	22.09	22.13	22.12	22.08	22.05	22.02
1.4	64QAM	1	3	21.99	22.13	22.14	22.15	22.19	22.15
1.4	64QAM	1	5	22.03	22.10	22.09	22.06	22.09	22.10
1.4	64QAM	3	0	22.19	22.19	22.13	22.04	22.09	22.04
1.4	64QAM	3	1	22.05	22.11	22.09	22.12	22.13	22.08
1.4	64QAM	3	3	22.09	22.19	22.17	22.07	22.09	22.08
1.4	64QAM	6	0	21.04	21.10	21.08	20.96	21.00	20.93



<LTE Band 26>

Power Selection				Head					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			23		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26765	26865	26965	26765	26865	26965
Frequency (MHz)				821.5	831.5	841.5	821.5	831.5	841.5
15	QPSK	1	0	24.55	24.57	24.55	22.42	22.47	22.47
15	QPSK	1	37	24.51	24.52	24.48	22.39	22.41	22.48
15	QPSK	1	74	24.58	24.59	24.46	22.45	22.51	22.36
15	QPSK	36	0	23.68	23.69	23.64	22.49	22.56	22.58
15	QPSK	36	20	23.71	23.71	23.68	22.56	22.66	22.61
15	QPSK	36	39	23.67	23.66	23.62	22.48	22.54	22.54
15	QPSK	75	0	23.68	23.66	23.63	22.50	22.66	22.56
15	16QAM	1	0	23.89	23.82	23.84	22.71	22.76	22.78
15	16QAM	1	37	23.75	23.83	23.76	22.69	22.73	22.80
15	16QAM	1	74	23.91	23.85	23.72	22.77	22.79	22.69
15	16QAM	36	0	22.70	22.71	22.68	22.54	22.61	22.62
15	16QAM	36	20	22.72	22.74	22.69	22.57	22.64	22.66
15	16QAM	36	39	22.70	22.67	22.65	22.57	22.59	22.59
15	16QAM	75	0	22.69	22.70	22.65	22.56	22.61	22.62
15	64QAM	1	0	22.61	22.78	22.80	22.66	22.71	22.78
15	64QAM	1	37	22.75	22.80	22.72	22.66	22.77	22.77
15	64QAM	1	74	22.76	22.81	22.37	22.72	22.73	22.54
15	64QAM	36	0	21.54	21.75	21.70	21.59	21.68	21.67
15	64QAM	36	20	21.74	21.79	21.71	21.61	21.69	21.71
15	64QAM	36	39	21.29	21.74	21.06	21.62	21.64	21.24
15	64QAM	75	0	21.42	21.66	21.53	21.58	21.62	21.63
Channel				26740	26865	26990	26740	26865	26990
Frequency (MHz)				819	831.5	844	819	831.5	844
10	QPSK	1	0	24.44	24.57	24.50	22.33	22.36	22.46
10	QPSK	1	25	24.44	24.46	24.39	22.34	22.38	22.41
10	QPSK	1	49	24.46	24.40	24.38	22.38	22.36	22.35
10	QPSK	25	0	23.52	23.56	23.49	22.38	22.45	22.47
10	QPSK	25	12	23.57	23.59	23.53	22.45	22.50	22.52
10	QPSK	25	25	23.57	23.56	23.50	22.44	22.46	22.49
10	QPSK	50	0	23.54	23.56	23.49	22.44	22.47	22.51
10	16QAM	1	0	23.66	23.81	23.72	22.67	22.73	22.72
10	16QAM	1	25	23.70	23.77	23.70	22.60	22.68	22.71
10	16QAM	1	49	23.69	23.75	23.65	22.71	22.71	22.63
10	16QAM	25	0	22.58	22.56	22.50	22.44	22.49	22.49
10	16QAM	25	12	22.58	22.62	22.55	22.47	22.52	22.54
10	16QAM	25	25	22.55	22.59	22.51	22.45	22.50	22.50
10	16QAM	50	0	22.57	22.58	22.51	22.48	22.50	22.48
10	64QAM	1	0	22.31	22.77	22.73	22.52	22.63	22.74
10	64QAM	1	25	22.66	22.72	22.41	22.59	22.63	22.44
10	64QAM	1	49	22.62	22.68	22.29	22.63	22.63	22.30
10	64QAM	25	0	21.48	21.60	21.51	21.46	21.52	21.50
10	64QAM	25	12	21.60	21.62	21.36	21.48	21.55	21.37
10	64QAM	25	25	21.55	21.63	21.23	21.48	21.54	21.27
10	64QAM	50	0	21.48	21.58	21.45	21.46	21.51	21.47
Channel				26715	26865	27015	26715	26865	27015
Frequency (MHz)				816.5	831.5	846.5	816.5	831.5	846.5
5	QPSK	1	0	24.32	24.37	24.35	22.30	22.27	22.46
5	QPSK	1	12	24.42	24.47	24.38	22.31	22.38	22.34





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5	QPSK	1	24	24.48	24.45	24.37	22.34	22.29	22.35
5	QPSK	12	0	23.49	23.51	23.44	22.30	22.41	22.37
5	QPSK	12	7	23.61	23.60	23.53	22.36	22.48	22.50
5	QPSK	12	13	23.54	23.57	23.47	22.37	22.38	22.43
5	QPSK	25	0	23.52	23.53	23.44	22.41	22.41	22.46
5	16QAM	1	0	23.63	23.67	23.64	22.67	22.68	22.70
5	16QAM	1	12	23.77	23.77	23.71	22.60	22.65	22.70
5	16QAM	1	24	23.73	23.75	23.58	22.63	22.65	22.61
5	16QAM	12	0	22.53	22.53	22.46	22.39	22.49	22.47
5	16QAM	12	7	22.65	22.61	22.52	22.45	22.50	22.44
5	16QAM	12	13	22.61	22.59	22.51	22.35	22.48	22.40
5	16QAM	25	0	22.59	22.55	22.44	22.38	22.42	22.47
5	64QAM	1	0	22.16	22.68	22.36	22.52	22.54	22.71
5	64QAM	1	12	22.50	22.73	22.39	22.54	22.53	22.44
5	64QAM	1	24	22.70	22.74	22.14	22.53	22.53	22.21
5	64QAM	12	0	21.10	21.62	21.29	21.42	21.43	21.40
5	64QAM	12	7	21.40	21.69	21.31	21.46	21.51	21.37
5	64QAM	12	13	21.55	21.69	21.19	21.45	21.45	21.24
5	64QAM	25	0	21.28	21.54	21.20	21.44	21.49	21.40
Channel				26705	26865	27025	26705	26865	27025
Frequency (MHz)				815.5	831.5	847.5	815.5	831.5	847.5
3	QPSK	1	0	24.30	24.40	24.42	22.30	22.29	22.39
3	QPSK	1	8	24.48	24.53	24.40	22.31	22.28	22.41
3	QPSK	1	14	24.36	24.42	24.30	22.33	22.27	22.33
3	QPSK	8	0	23.47	23.48	23.45	22.35	22.35	22.43
3	QPSK	8	4	23.56	23.59	23.47	22.44	22.45	22.42
3	QPSK	8	7	23.52	23.56	23.46	22.38	22.48	22.47
3	QPSK	15	0	23.51	23.46	23.44	22.39	22.46	22.43
3	16QAM	1	0	23.58	23.67	23.65	22.66	22.72	22.72
3	16QAM	1	8	23.80	23.82	23.65	22.55	22.68	22.67
3	16QAM	1	14	23.68	23.70	23.58	22.62	22.67	22.54
3	16QAM	8	0	22.58	22.62	22.58	22.38	22.41	22.40
3	16QAM	8	4	22.71	22.68	22.54	22.38	22.43	22.44
3	16QAM	8	7	22.64	22.63	22.51	22.43	22.42	22.48
3	16QAM	15	0	22.59	22.52	22.48	22.43	22.48	22.48
3	64QAM	1	0	22.13	22.67	22.42	22.52	22.63	22.72
3	64QAM	1	8	22.35	22.78	22.36	22.58	22.55	22.36
3	64QAM	1	14	22.53	22.68	22.13	22.55	22.58	22.21
3	64QAM	8	0	21.05	21.60	21.30	21.41	21.52	21.44
3	64QAM	8	4	21.13	21.69	21.26	21.38	21.49	21.29
3	64QAM	8	7	21.20	21.63	21.18	21.40	21.48	21.23
3	64QAM	15	0	21.06	21.55	21.22	21.41	21.51	21.40
Channel				26697	26865	27033	26697	26865	27033
Frequency (MHz)				814.7	831.5	848.3	814.7	831.5	848.3
1.4	QPSK	1	0	24.33	24.35	24.27	22.19	22.22	22.24
1.4	QPSK	1	3	24.43	24.48	24.37	22.29	22.36	22.34
1.4	QPSK	1	5	24.30	24.36	24.24	22.19	22.27	22.24
1.4	QPSK	3	0	24.38	24.36	24.30	22.22	22.27	22.33
1.4	QPSK	3	1	24.43	24.40	24.32	22.31	22.30	22.36
1.4	QPSK	3	3	24.40	24.42	24.27	22.28	22.31	22.28
1.4	QPSK	6	0	23.47	23.42	23.40	22.32	22.32	22.38
1.4	16QAM	1	0	23.65	23.63	23.51	22.48	22.55	22.55
1.4	16QAM	1	3	23.77	23.77	23.59	22.61	22.68	22.64
1.4	16QAM	1	5	23.64	23.67	23.54	22.51	22.56	22.48
1.4	16QAM	3	0	23.47	23.44	23.32	22.29	22.35	22.32
1.4	16QAM	3	1	23.51	23.45	23.41	22.39	22.39	22.37



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1.4	16QAM	3	3	23.47	23.45	23.33	22.32	22.37	22.30
1.4	16QAM	6	0	22.61	22.55	22.45	22.48	22.46	22.45
1.4	64QAM	1	0	22.04	22.60	22.13	22.45	22.53	22.06
1.4	64QAM	1	3	22.10	22.72	22.09	22.53	22.66	22.05
1.4	64QAM	1	5	22.08	22.65	21.96	22.47	22.55	21.96
1.4	64QAM	3	0	22.03	22.59	22.05	22.45	22.51	22.04
1.4	64QAM	3	1	22.09	22.65	22.09	22.53	22.57	22.08
1.4	64QAM	3	3	22.06	22.63	21.99	22.49	22.55	21.97
1.4	64QAM	6	0	20.87	21.48	20.92	21.35	21.40	20.87



Power Selection				Near body / Hotspot					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			25		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26765	26865	26965	26765	26865	26965
Frequency (MHz)				821.5	831.5	841.5	821.5	831.5	841.5
15	QPSK	1	0	24.55	24.57	24.55	24.55	24.57	24.55
15	QPSK	1	37	24.51	24.52	24.48	24.51	24.52	24.48
15	QPSK	1	74	24.58	24.59	24.46	24.58	24.59	24.46
15	QPSK	36	0	23.68	23.69	23.64	23.68	23.69	23.64
15	QPSK	36	20	23.71	23.71	23.68	23.71	23.71	23.68
15	QPSK	36	39	23.67	23.66	23.62	23.67	23.66	23.62
15	QPSK	75	0	23.68	23.66	23.63	23.68	23.66	23.63
15	16QAM	1	0	23.89	23.82	23.84	23.89	23.82	23.84
15	16QAM	1	37	23.75	23.83	23.76	23.75	23.83	23.76
15	16QAM	1	74	23.91	23.85	23.72	23.91	23.85	23.72
15	16QAM	36	0	22.70	22.71	22.68	22.70	22.71	22.68
15	16QAM	36	20	22.72	22.74	22.69	22.72	22.74	22.69
15	16QAM	36	39	22.70	22.67	22.65	22.70	22.67	22.65
15	16QAM	75	0	22.69	22.70	22.65	22.69	22.70	22.65
15	64QAM	1	0	22.61	22.78	22.80	22.61	22.78	22.80
15	64QAM	1	37	22.75	22.80	22.72	22.75	22.80	22.72
15	64QAM	1	74	22.76	22.81	22.37	22.76	22.81	22.37
15	64QAM	36	0	21.54	21.75	21.70	21.54	21.75	21.70
15	64QAM	36	20	21.74	21.79	21.71	21.74	21.79	21.71
15	64QAM	36	39	21.29	21.74	21.06	21.29	21.74	21.06
15	64QAM	75	0	21.42	21.66	21.53	21.42	21.66	21.53
Channel				26740	26865	26990	26740	26865	26990
Frequency (MHz)				819	831.5	844	819	831.5	844
10	QPSK	1	0	24.44	24.57	24.50	24.44	24.57	24.50
10	QPSK	1	25	24.44	24.46	24.39	24.44	24.46	24.39
10	QPSK	1	49	24.46	24.40	24.38	24.46	24.40	24.38
10	QPSK	25	0	23.52	23.56	23.49	23.52	23.56	23.49
10	QPSK	25	12	23.57	23.59	23.53	23.57	23.59	23.53
10	QPSK	25	25	23.57	23.56	23.50	23.57	23.56	23.50
10	QPSK	50	0	23.54	23.56	23.49	23.54	23.56	23.49
10	16QAM	1	0	23.66	23.81	23.72	23.66	23.81	23.72
10	16QAM	1	25	23.70	23.77	23.70	23.70	23.77	23.70
10	16QAM	1	49	23.69	23.75	23.65	23.69	23.75	23.65
10	16QAM	25	0	22.58	22.56	22.50	22.58	22.56	22.50
10	16QAM	25	12	22.58	22.62	22.55	22.58	22.62	22.55
10	16QAM	25	25	22.55	22.59	22.51	22.55	22.59	22.51
10	16QAM	50	0	22.57	22.58	22.51	22.57	22.58	22.51
10	64QAM	1	0	22.31	22.77	22.73	22.31	22.77	22.73
10	64QAM	1	25	22.66	22.72	22.41	22.66	22.72	22.41
10	64QAM	1	49	22.62	22.68	22.29	22.62	22.68	22.29
10	64QAM	25	0	21.48	21.60	21.51	21.48	21.60	21.51
10	64QAM	25	12	21.60	21.62	21.36	21.60	21.62	21.36
10	64QAM	25	25	21.55	21.63	21.23	21.55	21.63	21.23
10	64QAM	50	0	21.48	21.58	21.45	21.48	21.58	21.45
Channel				26715	26865	27015	26715	26865	27015
Frequency (MHz)				816.5	831.5	846.5	816.5	831.5	846.5
5	QPSK	1	0	24.32	24.37	24.35	24.32	24.37	24.35
5	QPSK	1	12	24.42	24.47	24.38	24.42	24.47	24.38



5	QPSK	1	24	24.48	24.45	24.37	24.48	24.45	24.37
5	QPSK	12	0	23.49	23.51	23.44	23.49	23.51	23.44
5	QPSK	12	7	23.61	23.60	23.53	23.61	23.60	23.53
5	QPSK	12	13	23.54	23.57	23.47	23.54	23.57	23.47
5	QPSK	25	0	23.52	23.53	23.44	23.52	23.53	23.44
5	16QAM	1	0	23.63	23.67	23.64	23.63	23.67	23.64
5	16QAM	1	12	23.77	23.77	23.71	23.77	23.77	23.71
5	16QAM	1	24	23.73	23.75	23.58	23.73	23.75	23.58
5	16QAM	12	0	22.53	22.53	22.46	22.53	22.53	22.46
5	16QAM	12	7	22.65	22.61	22.52	22.65	22.61	22.52
5	16QAM	12	13	22.61	22.59	22.51	22.61	22.59	22.51
5	16QAM	25	0	22.59	22.55	22.44	22.59	22.55	22.44
5	64QAM	1	0	22.16	22.68	22.36	22.16	22.68	22.36
5	64QAM	1	12	22.50	22.73	22.39	22.50	22.73	22.39
5	64QAM	1	24	22.70	22.74	22.14	22.70	22.74	22.14
5	64QAM	12	0	21.10	21.62	21.29	21.10	21.62	21.29
5	64QAM	12	7	21.40	21.69	21.31	21.40	21.69	21.31
5	64QAM	12	13	21.55	21.69	21.19	21.55	21.69	21.19
5	64QAM	25	0	21.28	21.54	21.20	21.28	21.54	21.20
Channel				26705	26865	27025	26705	26865	27025
Frequency (MHz)				815.5	831.5	847.5	815.5	831.5	847.5
3	QPSK	1	0	24.30	24.40	24.42	24.30	24.40	24.42
3	QPSK	1	8	24.48	24.53	24.40	24.48	24.53	24.40
3	QPSK	1	14	24.36	24.42	24.30	24.36	24.42	24.30
3	QPSK	8	0	23.47	23.48	23.45	23.47	23.48	23.45
3	QPSK	8	4	23.56	23.59	23.47	23.56	23.59	23.47
3	QPSK	8	7	23.52	23.56	23.46	23.52	23.56	23.46
3	QPSK	15	0	23.51	23.46	23.44	23.51	23.46	23.44
3	16QAM	1	0	23.58	23.67	23.65	23.58	23.67	23.65
3	16QAM	1	8	23.80	23.82	23.65	23.80	23.82	23.65
3	16QAM	1	14	23.68	23.70	23.58	23.68	23.70	23.58
3	16QAM	8	0	22.58	22.62	22.58	22.58	22.62	22.58
3	16QAM	8	4	22.71	22.68	22.54	22.71	22.68	22.54
3	16QAM	8	7	22.64	22.63	22.51	22.64	22.63	22.51
3	16QAM	15	0	22.59	22.52	22.48	22.59	22.52	22.48
3	64QAM	1	0	22.13	22.67	22.42	22.13	22.67	22.42
3	64QAM	1	8	22.35	22.78	22.36	22.35	22.78	22.36
3	64QAM	1	14	22.53	22.68	22.13	22.53	22.68	22.13
3	64QAM	8	0	21.05	21.60	21.30	21.05	21.60	21.30
3	64QAM	8	4	21.13	21.69	21.26	21.13	21.69	21.26
3	64QAM	8	7	21.20	21.63	21.18	21.20	21.63	21.18
3	64QAM	15	0	21.06	21.55	21.22	21.06	21.55	21.22
Channel				26697	26865	27033	26697	26865	27033
Frequency (MHz)				814.7	831.5	848.3	814.7	831.5	848.3
1.4	QPSK	1	0	24.33	24.35	24.27	24.33	24.35	24.27
1.4	QPSK	1	3	24.43	24.48	24.37	24.43	24.48	24.37
1.4	QPSK	1	5	24.30	24.36	24.24	24.30	24.36	24.24
1.4	QPSK	3	0	24.38	24.36	24.30	24.38	24.36	24.30
1.4	QPSK	3	1	24.43	24.40	24.32	24.43	24.40	24.32
1.4	QPSK	3	3	24.40	24.42	24.27	24.40	24.42	24.27
1.4	QPSK	6	0	23.47	23.42	23.40	23.47	23.42	23.40
1.4	16QAM	1	0	23.65	23.63	23.51	23.65	23.63	23.51
1.4	16QAM	1	3	23.77	23.77	23.59	23.77	23.77	23.59
1.4	16QAM	1	5	23.64	23.67	23.54	23.64	23.67	23.54
1.4	16QAM	3	0	23.47	23.44	23.32	23.47	23.44	23.32
1.4	16QAM	3	1	23.51	23.45	23.41	23.51	23.45	23.41



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1.4	16QAM	3	3	23.47	23.45	23.33	23.47	23.45	23.33
1.4	16QAM	6	0	22.61	22.55	22.45	22.61	22.55	22.45
1.4	64QAM	1	0	22.04	22.60	22.13	22.04	22.60	22.13
1.4	64QAM	1	3	22.10	22.72	22.09	22.10	22.72	22.09
1.4	64QAM	1	5	22.08	22.65	21.96	22.08	22.65	21.96
1.4	64QAM	3	0	22.03	22.59	22.05	22.03	22.59	22.05
1.4	64QAM	3	1	22.09	22.65	22.09	22.09	22.65	22.09
1.4	64QAM	3	3	22.06	22.63	21.99	22.06	22.63	21.99
1.4	64QAM	6	0	20.87	21.48	20.92	20.87	21.48	20.92



<LTE Band 66>

Power Selection				Head					
Transmit Antenna				Ant 0b			Ant 1		
Max. Power				24.75			20.5		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				132072	132322	132572	132072	132322	132572
Frequency (MHz)				1720	1745	1770	1720	1745	1770
20	QPSK	1	0	24.37	24.40	24.38	19.90	19.94	19.95
20	QPSK	1	49	24.29	24.29	24.23	19.88	19.87	19.83
20	QPSK	1	99	24.32	24.26	24.14	19.82	19.83	19.73
20	QPSK	50	0	23.50	23.54	23.48	20.08	20.09	20.10
20	QPSK	50	24	23.48	23.48	23.41	20.04	20.04	20.00
20	QPSK	50	50	23.41	23.43	23.38	19.98	19.99	19.92
20	QPSK	100	0	23.44	23.47	23.33	20.02	20.00	20.03
20	16QAM	1	0	23.62	23.63	23.63	20.25	20.27	20.25
20	16QAM	1	49	23.56	23.55	23.49	20.12	20.16	20.13
20	16QAM	1	99	23.54	23.53	23.44	20.07	20.11	19.99
20	16QAM	50	0	22.52	22.54	22.48	20.08	20.12	20.06
20	16QAM	50	24	22.48	22.48	22.42	20.06	20.07	20.03
20	16QAM	50	50	22.43	22.42	22.38	19.99	20.00	19.94
20	16QAM	100	0	22.46	22.47	22.41	20.03	20.05	20.00
20	64QAM	1	0	22.58	22.61	22.60	20.19	20.21	20.17
20	64QAM	1	49	22.45	22.51	22.45	20.07	20.12	20.06
20	64QAM	1	99	22.57	22.34	22.02	20.06	20.09	19.94
20	64QAM	50	0	21.51	21.56	21.51	20.10	20.13	20.08
20	64QAM	50	24	21.48	21.51	21.44	20.06	20.09	20.04
20	64QAM	50	50	21.42	21.44	21.39	20.01	20.03	19.98
20	64QAM	100	0	21.42	21.49	21.43	20.04	20.08	20.04
Channel				132047	132322	132597	132047	132322	132597
Frequency (MHz)				1717.5	1745	1772.5	1717.5	1745	1772.5
15	QPSK	1	0	24.18	24.25	24.19	19.84	19.90	19.95
15	QPSK	1	37	24.28	24.04	24.08	19.78	19.79	19.76
15	QPSK	1	74	24.17	24.01	23.96	19.77	19.73	19.63
15	QPSK	36	0	23.26	23.37	23.28	20.01	20.04	20.07
15	QPSK	36	20	23.23	23.34	23.16	19.94	19.94	19.97
15	QPSK	36	39	23.24	23.21	23.13	19.91	19.95	19.91
15	QPSK	75	0	23.26	23.30	23.18	20.00	19.94	20.01
15	16QAM	1	0	23.36	23.44	23.60	20.16	20.18	20.22
15	16QAM	1	37	23.53	23.52	23.37	20.03	20.10	20.12
15	16QAM	1	74	23.36	23.32	22.98	20.01	20.09	19.93
15	16QAM	36	0	22.31	22.33	22.26	20.00	20.08	20.00
15	16QAM	36	20	22.30	22.31	22.23	20.04	20.02	19.98
15	16QAM	36	39	22.19	22.22	22.21	19.90	19.98	19.88
15	16QAM	75	0	22.31	22.19	22.23	20.01	19.97	20.00
15	64QAM	1	0	22.30	22.44	22.66	20.11	20.14	20.12
15	64QAM	1	37	22.21	22.38	22.32	20.04	20.10	20.02
15	64QAM	1	74	21.86	22.32	21.57	19.98	20.05	19.93
15	64QAM	36	0	21.34	21.45	21.36	20.09	20.11	20.03
15	64QAM	36	20	21.20	21.41	21.30	20.05	19.99	20.03
15	64QAM	36	39	21.22	21.20	21.17	19.99	19.94	19.88
15	64QAM	75	0	21.27	21.36	21.17	19.97	19.99	19.95
Channel				132022	132322	132622	132022	132322	132622
Frequency (MHz)				1715	1745	1775	1715	1745	1775
10	QPSK	1	0	23.90	24.09	23.88	19.88	19.86	19.93
10	QPSK	1	25	23.90	23.86	23.85	19.78	19.84	19.82



10	QPSK	1	49	23.85	24.24	23.77	19.81	19.75	19.71
10	QPSK	25	0	23.19	23.11	23.08	20.07	20.02	20.05
10	QPSK	25	12	23.10	23.13	23.09	20.02	19.98	20.00
10	QPSK	25	25	23.11	23.13	23.02	19.92	19.98	19.88
10	QPSK	50	0	23.17	23.11	23.08	19.94	19.99	20.02
10	16QAM	1	0	22.92	23.21	23.11	20.17	20.23	20.24
10	16QAM	1	25	23.54	23.25	22.90	20.04	20.07	20.11
10	16QAM	1	49	23.24	22.83	23.46	20.00	20.05	19.90
10	16QAM	25	0	22.15	21.97	22.01	20.01	20.10	20.02
10	16QAM	25	12	22.14	22.25	22.13	19.99	20.00	19.98
10	16QAM	25	25	22.18	22.03	22.02	19.91	19.99	19.86
10	16QAM	50	0	22.14	22.16	22.07	19.98	20.05	19.98
10	64QAM	1	0	22.31	22.13	22.40	20.14	20.19	20.12
10	64QAM	1	25	21.74	22.29	22.17	20.03	20.07	19.98
10	64QAM	1	49	21.75	22.27	21.79	20.01	19.99	19.93
10	64QAM	25	0	21.27	21.15	21.14	20.01	20.07	20.08
10	64QAM	25	12	21.11	21.06	21.05	20.02	20.01	20.02
10	64QAM	25	25	21.09	21.11	21.07	19.97	20.03	19.94
10	64QAM	50	0	21.26	21.05	21.13	20.01	19.99	19.95
Channel				131997	132322	132647	131997	132322	132647
Frequency (MHz)				1712.5	1745	1777.5	1712.5	1745	1777.5
5	QPSK	1	0	23.95	24.07	23.79	19.81	19.87	19.91
5	QPSK	1	12	24.08	24.04	23.97	19.82	19.85	19.81
5	QPSK	1	24	24.16	24.01	23.88	19.77	19.79	19.70
5	QPSK	12	0	23.12	23.09	23.03	20.01	20.09	20.01
5	QPSK	12	7	23.22	23.20	23.03	20.03	20.04	19.97
5	QPSK	12	13	23.25	23.14	23.11	19.88	19.95	19.88
5	QPSK	25	0	23.25	23.16	22.99	20.00	19.90	19.97
5	16QAM	1	0	23.53	23.08	23.37	20.22	20.25	20.23
5	16QAM	1	12	23.45	23.30	23.50	20.06	20.13	20.03
5	16QAM	1	24	23.26	23.02	23.49	20.02	20.07	19.92
5	16QAM	12	0	22.12	22.07	22.01	20.05	20.12	20.03
5	16QAM	12	7	22.27	22.08	22.06	20.01	19.98	20.01
5	16QAM	12	13	22.26	22.21	21.98	19.97	19.96	19.88
5	16QAM	25	0	22.31	22.04	22.06	20.03	20.01	19.91
5	64QAM	1	0	22.24	22.09	21.93	20.10	20.19	20.13
5	64QAM	1	12	22.32	22.13	22.06	19.98	20.07	20.06
5	64QAM	1	24	22.53	22.19	21.84	20.02	20.02	19.84
5	64QAM	12	0	21.26	21.19	21.07	20.08	20.10	19.98
5	64QAM	12	7	21.21	21.30	21.38	19.97	20.09	20.01
5	64QAM	12	13	21.26	21.17	21.17	19.95	20.02	19.98
5	64QAM	25	0	21.24	21.14	21.12	19.94	20.00	20.04
Channel				131987	132322	132657	131987	132322	132657
Frequency (MHz)				1711.5	1745	1778.5	1711.5	1745	1778.5
3	QPSK	1	0	24.10	23.97	23.93	19.86	19.84	19.93
3	QPSK	1	8	24.09	24.15	24.10	19.79	19.79	19.77
3	QPSK	1	14	24.04	23.99	23.88	19.72	19.82	19.63
3	QPSK	8	0	23.17	23.09	23.08	20.06	20.03	20.10
3	QPSK	8	4	23.17	23.21	23.04	19.99	20.04	19.96
3	QPSK	8	7	23.21	23.15	23.12	19.90	19.92	19.87
3	QPSK	15	0	23.28	23.11	23.11	20.02	19.99	19.93
3	16QAM	1	0	23.50	23.03	23.09	20.18	20.21	20.21
3	16QAM	1	8	23.24	23.26	23.25	20.11	20.08	20.10
3	16QAM	1	14	23.22	23.13	22.87	20.04	20.02	19.89
3	16QAM	8	0	22.25	22.19	22.09	20.05	20.08	19.97
3	16QAM	8	4	22.29	22.18	22.05	20.04	20.03	20.03



3	16QAM	8	7	22.22	22.18	22.16	19.98	19.97	19.89
3	16QAM	15	0	22.28	22.16	22.11	19.96	19.97	19.97
3	64QAM	1	0	21.88	22.03	22.03	20.15	20.21	20.11
3	64QAM	1	8	22.44	22.19	21.95	20.01	20.03	20.03
3	64QAM	1	14	21.98	22.40	22.01	19.96	20.06	19.84
3	64QAM	8	0	21.16	21.08	21.01	20.06	20.04	20.03
3	64QAM	8	4	21.27	21.33	21.02	19.98	20.06	19.97
3	64QAM	8	7	21.16	21.23	21.26	19.97	19.97	19.90
3	64QAM	15	0	21.28	21.04	21.11	20.02	20.03	20.00
Channel				131979	132322	132665	131979	132322	132665
Frequency (MHz)				1710.7	1745	1779.3	1710.7	1745	1779.3
1.4	QPSK	1	0	23.93	23.96	23.82	19.85	19.86	19.85
1.4	QPSK	1	3	24.05	24.03	23.90	19.80	19.80	19.78
1.4	QPSK	1	5	24.07	23.98	23.92	19.77	19.74	19.63
1.4	QPSK	3	0	24.02	24.03	23.88	19.99	20.02	20.07
1.4	QPSK	3	1	24.04	24.07	23.91	20.00	20.04	19.92
1.4	QPSK	3	3	24.03	24.02	23.96	19.93	19.97	19.90
1.4	QPSK	6	0	23.13	23.08	22.93	19.96	19.98	19.98
1.4	16QAM	1	0	23.07	22.91	22.96	20.15	20.17	20.23
1.4	16QAM	1	3	23.23	23.26	23.23	20.07	20.07	20.13
1.4	16QAM	1	5	23.20	23.05	23.10	19.97	20.06	19.94
1.4	16QAM	3	0	22.90	23.09	22.96	20.03	20.05	19.96
1.4	16QAM	3	1	23.14	23.04	23.09	19.96	20.04	19.99
1.4	16QAM	3	3	23.13	23.05	22.88	19.89	19.95	19.86
1.4	16QAM	6	0	22.22	22.22	22.08	20.01	19.96	19.94
1.4	64QAM	1	0	22.05	22.30	21.84	20.18	20.12	20.15
1.4	64QAM	1	3	22.36	22.32	21.76	20.03	20.07	19.96
1.4	64QAM	1	5	22.33	21.82	21.64	20.04	20.04	19.89
1.4	64QAM	3	0	22.09	22.22	21.87	20.08	20.06	20.07
1.4	64QAM	3	1	21.97	22.21	21.92	20.00	20.08	19.96
1.4	64QAM	3	3	22.29	22.20	21.84	20.01	19.94	19.90
1.4	64QAM	6	0	21.05	21.06	20.94	19.94	20.07	19.99





Power Selection				Near body / Hotspot					
Transmit Antenna				Ant 0b			Ant 1		
Max. Power				24.75			24.75		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				132072	132322	132572	132072	132322	132572
Frequency (MHz)				1720	1745	1770	1720	1745	1770
20	QPSK	1	0	24.37	24.40	24.38	24.37	24.40	24.38
20	QPSK	1	49	24.29	24.29	24.23	24.29	24.29	24.23
20	QPSK	1	99	24.32	24.26	24.14	24.32	24.26	24.14
20	QPSK	50	0	23.50	23.54	23.48	23.50	23.54	23.48
20	QPSK	50	24	23.48	23.48	23.41	23.48	23.48	23.41
20	QPSK	50	50	23.41	23.43	23.38	23.41	23.43	23.38
20	QPSK	100	0	23.44	23.47	23.33	23.44	23.47	23.33
20	16QAM	1	0	23.62	23.63	23.63	23.62	23.63	23.63
20	16QAM	1	49	23.56	23.55	23.49	23.56	23.55	23.49
20	16QAM	1	99	23.54	23.53	23.44	23.54	23.53	23.44
20	16QAM	50	0	22.52	22.54	22.48	22.52	22.54	22.48
20	16QAM	50	24	22.48	22.48	22.42	22.48	22.48	22.42
20	16QAM	50	50	22.43	22.42	22.38	22.43	22.42	22.38
20	16QAM	100	0	22.46	22.47	22.41	22.46	22.47	22.41
20	64QAM	1	0	22.58	22.61	22.60	22.58	22.61	22.60
20	64QAM	1	49	22.45	22.51	22.45	22.45	22.51	22.45
20	64QAM	1	99	22.57	22.34	22.02	22.57	22.34	22.02
20	64QAM	50	0	21.51	21.56	21.51	21.51	21.56	21.51
20	64QAM	50	24	21.48	21.51	21.44	21.48	21.51	21.44
20	64QAM	50	50	21.42	21.44	21.39	21.42	21.44	21.39
20	64QAM	100	0	21.42	21.49	21.43	21.42	21.49	21.43
Channel				132047	132322	132597	132047	132322	132597
Frequency (MHz)				1717.5	1745	1772.5	1717.5	1745	1772.5
15	QPSK	1	0	24.18	24.25	24.19	24.18	24.25	24.19
15	QPSK	1	37	24.28	24.04	24.08	24.28	24.04	24.08
15	QPSK	1	74	24.17	24.01	23.96	24.17	24.01	23.96
15	QPSK	36	0	23.26	23.37	23.28	23.26	23.37	23.28
15	QPSK	36	20	23.23	23.34	23.16	23.23	23.34	23.16
15	QPSK	36	39	23.24	23.21	23.13	23.24	23.21	23.13
15	QPSK	75	0	23.26	23.30	23.18	23.26	23.30	23.18
15	16QAM	1	0	23.36	23.44	23.60	23.36	23.44	23.60
15	16QAM	1	37	23.53	23.52	23.37	23.53	23.52	23.37
15	16QAM	1	74	23.36	23.32	22.98	23.36	23.32	22.98
15	16QAM	36	0	22.31	22.33	22.26	22.31	22.33	22.26
15	16QAM	36	20	22.30	22.31	22.23	22.30	22.31	22.23
15	16QAM	36	39	22.19	22.22	22.21	22.19	22.22	22.21
15	16QAM	75	0	22.31	22.19	22.23	22.31	22.19	22.23
15	64QAM	1	0	22.30	22.44	22.66	22.30	22.44	22.66
15	64QAM	1	37	22.21	22.38	22.32	22.21	22.38	22.32
15	64QAM	1	74	21.86	22.32	21.57	21.86	22.32	21.57
15	64QAM	36	0	21.34	21.45	21.36	21.34	21.45	21.36
15	64QAM	36	20	21.20	21.41	21.30	21.20	21.41	21.30
15	64QAM	36	39	21.22	21.20	21.17	21.22	21.20	21.17
15	64QAM	75	0	21.27	21.36	21.17	21.27	21.36	21.17
Channel				132022	132322	132622	132022	132322	132622
Frequency (MHz)				1715	1745	1775	1715	1745	1775
10	QPSK	1	0	23.90	24.09	23.88	23.90	24.09	23.88
10	QPSK	1	25	23.90	23.86	23.85	23.90	23.86	23.85



10	QPSK	1	49	23.85	24.24	23.77	23.85	24.24	23.77
10	QPSK	25	0	23.19	23.11	23.08	23.19	23.11	23.08
10	QPSK	25	12	23.10	23.13	23.09	23.10	23.13	23.09
10	QPSK	25	25	23.11	23.13	23.02	23.11	23.13	23.02
10	QPSK	50	0	23.17	23.11	23.08	23.17	23.11	23.08
10	16QAM	1	0	22.92	23.21	23.11	22.92	23.21	23.11
10	16QAM	1	25	23.54	23.25	22.90	23.54	23.25	22.90
10	16QAM	1	49	23.24	22.83	23.46	23.24	22.83	23.46
10	16QAM	25	0	22.15	21.97	22.01	22.15	21.97	22.01
10	16QAM	25	12	22.14	22.25	22.13	22.14	22.25	22.13
10	16QAM	25	25	22.18	22.03	22.02	22.18	22.03	22.02
10	16QAM	50	0	22.14	22.16	22.07	22.14	22.16	22.07
10	64QAM	1	0	22.31	22.13	22.40	22.31	22.13	22.40
10	64QAM	1	25	21.74	22.29	22.17	21.74	22.29	22.17
10	64QAM	1	49	21.75	22.27	21.79	21.75	22.27	21.79
10	64QAM	25	0	21.27	21.15	21.14	21.27	21.15	21.14
10	64QAM	25	12	21.11	21.06	21.05	21.11	21.06	21.05
10	64QAM	25	25	21.09	21.11	21.07	21.09	21.11	21.07
10	64QAM	50	0	21.26	21.05	21.13	21.26	21.05	21.13
Channel				131997	132322	132647	131997	132322	132647
Frequency (MHz)				1712.5	1745	1777.5	1712.5	1745	1777.5
5	QPSK	1	0	23.95	24.07	23.79	23.95	24.07	23.79
5	QPSK	1	12	24.08	24.04	23.97	24.08	24.04	23.97
5	QPSK	1	24	24.16	24.01	23.88	24.16	24.01	23.88
5	QPSK	12	0	23.12	23.09	23.03	23.12	23.09	23.03
5	QPSK	12	7	23.22	23.20	23.03	23.22	23.20	23.03
5	QPSK	12	13	23.25	23.14	23.11	23.25	23.14	23.11
5	QPSK	25	0	23.25	23.16	22.99	23.25	23.16	22.99
5	16QAM	1	0	23.53	23.08	23.37	23.53	23.08	23.37
5	16QAM	1	12	23.45	23.30	23.50	23.45	23.30	23.50
5	16QAM	1	24	23.26	23.02	23.49	23.26	23.02	23.49
5	16QAM	12	0	22.12	22.07	22.01	22.12	22.07	22.01
5	16QAM	12	7	22.27	22.08	22.06	22.27	22.08	22.06
5	16QAM	12	13	22.26	22.21	21.98	22.26	22.21	21.98
5	16QAM	25	0	22.31	22.04	22.06	22.31	22.04	22.06
5	64QAM	1	0	22.24	22.09	21.93	22.24	22.09	21.93
5	64QAM	1	12	22.32	22.13	22.06	22.32	22.13	22.06
5	64QAM	1	24	22.53	22.19	21.84	22.53	22.19	21.84
5	64QAM	12	0	21.26	21.19	21.07	21.26	21.19	21.07
5	64QAM	12	7	21.21	21.30	21.38	21.21	21.30	21.38
5	64QAM	12	13	21.26	21.17	21.17	21.26	21.17	21.17
5	64QAM	25	0	21.24	21.14	21.12	21.24	21.14	21.12
Channel				131987	132322	132657	131987	132322	132657
Frequency (MHz)				1711.5	1745	1778.5	1711.5	1745	1778.5
3	QPSK	1	0	24.10	23.97	23.93	24.10	23.97	23.93
3	QPSK	1	8	24.09	24.15	24.10	24.09	24.15	24.10
3	QPSK	1	14	24.04	23.99	23.88	24.04	23.99	23.88
3	QPSK	8	0	23.17	23.09	23.08	23.17	23.09	23.08
3	QPSK	8	4	23.17	23.21	23.04	23.17	23.21	23.04
3	QPSK	8	7	23.21	23.15	23.12	23.21	23.15	23.12
3	QPSK	15	0	23.28	23.11	23.11	23.28	23.11	23.11
3	16QAM	1	0	23.50	23.03	23.09	23.50	23.03	23.09
3	16QAM	1	8	23.24	23.26	23.25	23.24	23.26	23.25
3	16QAM	1	14	23.22	23.13	22.87	23.22	23.13	22.87
3	16QAM	8	0	22.25	22.19	22.09	22.25	22.19	22.09
3	16QAM	8	4	22.29	22.18	22.05	22.29	22.18	22.05



3	16QAM	8	7	22.22	22.18	22.16	22.22	22.18	22.16
3	16QAM	15	0	22.28	22.16	22.11	22.28	22.16	22.11
3	64QAM	1	0	21.88	22.03	22.03	21.88	22.03	22.03
3	64QAM	1	8	22.44	22.19	21.95	22.44	22.19	21.95
3	64QAM	1	14	21.98	22.40	22.01	21.98	22.40	22.01
3	64QAM	8	0	21.16	21.08	21.01	21.16	21.08	21.01
3	64QAM	8	4	21.27	21.33	21.02	21.27	21.33	21.02
3	64QAM	8	7	21.16	21.23	21.26	21.16	21.23	21.26
3	64QAM	15	0	21.28	21.04	21.11	21.28	21.04	21.11
Channel				131979	132322	132665	131979	132322	132665
Frequency (MHz)				1710.7	1745	1779.3	1710.7	1745	1779.3
1.4	QPSK	1	0	23.93	23.96	23.82	23.93	23.96	23.82
1.4	QPSK	1	3	24.05	24.03	23.90	24.05	24.03	23.90
1.4	QPSK	1	5	24.07	23.98	23.92	24.07	23.98	23.92
1.4	QPSK	3	0	24.02	24.03	23.88	24.02	24.03	23.88
1.4	QPSK	3	1	24.04	24.07	23.91	24.04	24.07	23.91
1.4	QPSK	3	3	24.03	24.02	23.96	24.03	24.02	23.96
1.4	QPSK	6	0	23.13	23.08	22.93	23.13	23.08	22.93
1.4	16QAM	1	0	23.07	22.91	22.96	23.07	22.91	22.96
1.4	16QAM	1	3	23.23	23.26	23.23	23.23	23.26	23.23
1.4	16QAM	1	5	23.20	23.05	23.10	23.20	23.05	23.10
1.4	16QAM	3	0	22.90	23.09	22.96	22.90	23.09	22.96
1.4	16QAM	3	1	23.14	23.04	23.09	23.14	23.04	23.09
1.4	16QAM	3	3	23.13	23.05	22.88	23.13	23.05	22.88
1.4	16QAM	6	0	22.22	22.22	22.08	22.22	22.22	22.08
1.4	64QAM	1	0	22.05	22.30	21.84	22.05	22.30	21.84
1.4	64QAM	1	3	22.36	22.32	21.76	22.36	22.32	21.76
1.4	64QAM	1	5	22.33	21.82	21.64	22.33	21.82	21.64
1.4	64QAM	3	0	22.09	22.22	21.87	22.09	22.22	21.87
1.4	64QAM	3	1	21.97	22.21	21.92	21.97	22.21	21.92
1.4	64QAM	3	3	22.29	22.20	21.84	22.29	22.20	21.84
1.4	64QAM	6	0	21.05	21.06	20.94	21.05	21.06	20.94



<LTE Band 71>

Power Selection				Head / Near body / Hotspot					
Transmit Antenna				Ant 0a			Ant 1		
Max. Power				25			25		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				133222	133297	133372	133222	133297	133372
Frequency (MHz)				673	680.5	688	673	680.5	688
20	QPSK	1	0	24.61	24.66	24.67	24.61	24.66	24.67
20	QPSK	1	49	24.51	24.50	24.53	24.51	24.50	24.53
20	QPSK	1	99	24.38	24.45	24.47	24.38	24.45	24.47
20	QPSK	50	0	23.61	23.64	23.69	23.61	23.64	23.69
20	QPSK	50	24	23.66	23.69	23.74	23.66	23.69	23.74
20	QPSK	50	50	23.69	23.70	23.69	23.69	23.70	23.69
20	QPSK	100	0	23.66	23.69	23.73	23.66	23.69	23.73
20	16QAM	1	0	23.89	23.89	23.92	23.89	23.89	23.92
20	16QAM	1	49	23.82	23.75	23.87	23.82	23.75	23.87
20	16QAM	1	99	23.64	23.73	23.71	23.64	23.73	23.71
20	16QAM	50	0	22.64	22.63	22.69	22.64	22.63	22.69
20	16QAM	50	24	22.72	22.71	22.74	22.72	22.71	22.74
20	16QAM	50	50	22.74	22.73	22.68	22.74	22.73	22.68
20	16QAM	100	0	22.67	22.66	22.71	22.67	22.66	22.71
20	64QAM	1	0	22.83	22.88	22.82	22.83	22.88	22.82
20	64QAM	1	49	22.73	22.69	22.74	22.73	22.69	22.74
20	64QAM	1	99	22.61	22.66	22.57	22.61	22.66	22.57
20	64QAM	50	0	21.64	21.66	21.69	21.64	21.66	21.69
20	64QAM	50	24	21.71	21.70	21.76	21.71	21.70	21.76
20	64QAM	50	50	21.72	21.73	21.70	21.72	21.73	21.70
20	64QAM	100	0	21.71	21.67	21.73	21.71	21.67	21.73
Channel				133197	133297	133397	133197	133297	133397
Frequency (MHz)				670.5	680.5	690.5	670.5	680.5	690.5
15	QPSK	1	0	24.65	24.59	24.65	24.65	24.59	24.65
15	QPSK	1	37	24.50	24.47	24.52	24.50	24.47	24.52
15	QPSK	1	74	24.50	24.49	24.47	24.50	24.49	24.47
15	QPSK	36	0	23.62	23.60	23.70	23.62	23.60	23.70
15	QPSK	36	20	23.67	23.69	23.70	23.67	23.69	23.70
15	QPSK	36	39	23.62	23.76	23.68	23.62	23.76	23.68
15	QPSK	75	0	23.67	23.67	23.73	23.67	23.67	23.73
15	16QAM	1	0	23.92	23.88	23.96	23.92	23.88	23.96
15	16QAM	1	37	23.91	23.81	23.80	23.91	23.81	23.80
15	16QAM	1	74	23.77	23.73	23.68	23.77	23.73	23.68
15	16QAM	36	0	22.61	22.60	22.71	22.61	22.60	22.71
15	16QAM	36	20	22.73	22.68	22.71	22.73	22.68	22.71
15	16QAM	36	39	22.67	22.75	22.70	22.67	22.75	22.70
15	16QAM	75	0	22.70	22.69	22.72	22.70	22.69	22.72
15	64QAM	1	0	22.79	22.79	22.81	22.79	22.79	22.81
15	64QAM	1	37	22.91	22.88	22.89	22.91	22.88	22.89
15	64QAM	1	74	22.82	22.71	22.83	22.82	22.71	22.83
15	64QAM	36	0	21.65	21.64	21.67	21.65	21.64	21.67
15	64QAM	36	20	21.71	21.71	21.75	21.71	21.71	21.75
15	64QAM	36	39	21.70	21.71	21.71	21.70	21.71	21.71
15	64QAM	75	0	21.72	21.71	21.71	21.72	21.71	21.71
Channel				133172	133297	133422	133172	133297	133422
Frequency (MHz)				668	680.5	693	668	680.5	693
10	QPSK	1	0	24.50	24.43	24.55	24.50	24.43	24.55
10	QPSK	1	25	24.38	24.40	24.42	24.38	24.40	24.42



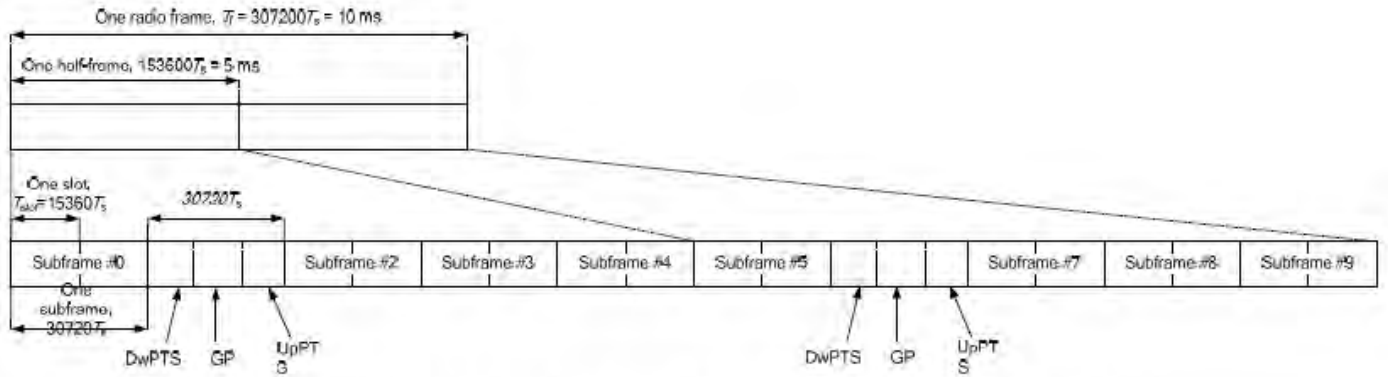
10	QPSK	1	49	24.38	24.30	24.30	24.38	24.30	24.30
10	QPSK	25	0	23.52	23.53	23.51	23.52	23.53	23.51
10	QPSK	25	12	23.49	23.51	23.51	23.49	23.51	23.51
10	QPSK	25	25	23.45	23.50	23.48	23.45	23.50	23.48
10	QPSK	50	0	23.50	23.50	23.53	23.50	23.50	23.53
10	16QAM	1	0	23.78	23.63	23.75	23.78	23.63	23.75
10	16QAM	1	25	23.67	23.66	23.70	23.67	23.66	23.70
10	16QAM	1	49	23.77	23.60	23.50	23.77	23.60	23.50
10	16QAM	25	0	22.53	22.52	22.53	22.53	22.52	22.53
10	16QAM	25	12	22.54	22.53	22.56	22.54	22.53	22.56
10	16QAM	25	25	22.49	22.50	22.50	22.49	22.50	22.50
10	16QAM	50	0	22.52	22.51	22.55	22.52	22.51	22.55
10	64QAM	1	0	22.72	22.57	22.81	22.72	22.57	22.81
10	64QAM	1	25	22.64	22.61	22.68	22.64	22.61	22.68
10	64QAM	1	49	22.76	22.56	22.41	22.76	22.56	22.41
10	64QAM	25	0	21.54	21.52	21.58	21.54	21.52	21.58
10	64QAM	25	12	21.55	21.55	21.56	21.55	21.55	21.56
10	64QAM	25	25	21.51	21.54	21.50	21.51	21.54	21.50
10	64QAM	50	0	21.55	21.53	21.58	21.55	21.53	21.58
Channel				133147	133297	133447	133147	133297	133447
Frequency (MHz)				665.5	680.5	695.5	665.5	680.5	695.5
5	QPSK	1	0	24.33	24.29	24.34	24.33	24.29	24.34
5	QPSK	1	12	24.44	24.41	24.43	24.44	24.41	24.43
5	QPSK	1	24	24.44	24.44	24.45	24.44	24.44	24.45
5	QPSK	12	0	23.47	23.48	23.45	23.47	23.48	23.45
5	QPSK	12	7	23.57	23.58	23.50	23.57	23.58	23.50
5	QPSK	12	13	23.58	23.56	23.54	23.58	23.56	23.54
5	QPSK	25	0	23.54	23.55	23.47	23.54	23.55	23.47
5	16QAM	1	0	23.61	23.51	23.63	23.61	23.51	23.63
5	16QAM	1	12	23.74	23.66	23.74	23.74	23.66	23.74
5	16QAM	1	24	23.70	23.73	23.71	23.70	23.73	23.71
5	16QAM	12	0	22.49	22.51	22.51	22.49	22.51	22.51
5	16QAM	12	7	22.63	22.58	22.55	22.63	22.58	22.55
5	16QAM	12	13	22.60	22.59	22.56	22.60	22.59	22.56
5	16QAM	25	0	22.53	22.57	22.52	22.53	22.57	22.52
5	64QAM	1	0	22.58	22.61	22.57	22.58	22.61	22.57
5	64QAM	1	12	22.71	22.67	22.49	22.71	22.67	22.49
5	64QAM	1	24	22.70	22.69	22.09	22.70	22.69	22.09
5	64QAM	12	0	21.55	21.58	21.43	21.55	21.58	21.43
5	64QAM	12	7	21.62	21.66	21.49	21.62	21.66	21.49
5	64QAM	12	13	21.61	21.69	21.26	21.61	21.69	21.26
5	64QAM	25	0	21.60	21.59	21.34	21.60	21.59	21.34

**<TDD LTE SAR Measurement>**

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

- d. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- e. “special subframe S” contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
- f. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.



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

**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

**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	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$		
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	$26336 \cdot T_s$		$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$			
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$					$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$				
8	$24144 \cdot T_s$			-	-			
9	$13168 \cdot T_s$			-	-	-		



<b>Special subframe (30720·T<sub>s</sub>): Normal cyclic prefix in downlink (UpPTS)</b>			
	<b>Special subframe configuration</b>	<b>Normal cyclic prefix in uplink</b>	<b>Extended cyclic prefix in uplink</b>
<b>Uplink duty factor in one special subframe</b>	<b>0~4</b>	7.13%	8.33%
	<b>5~9</b>	14.3%	16.7%

<b>Special subframe(30720·T<sub>s</sub>): Extended cyclic prefix in downlink (UpPTS)</b>			
	<b>Special subframe configuration</b>	<b>Normal cyclic prefix in uplink</b>	<b>Extended cyclic prefix in uplink</b>
<b>Uplink duty factor in one special subframe</b>	<b>0~3</b>	7.13%	8.33%
	<b>4~7</b>	14.3%	16.7%

The highest duty factor is resulted from:

- i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(3+0.167)/5 = 63.3\%$
- iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(3+0.143)/5 = 62.9\%$
- v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix  $63.3\%/62.9\% = 1.006$  is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.
- vi. The device supports Power Class 3 uplink-downlink configurations 0 and 6, and Power Class 2 uplink-downlink configurations 1 to 5 operations for LTE Band 41
- vii. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1, for Power Class 3 operation is 63.3% using UL-DL configuration 0. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition
- viii. Ant 0c not supports power class2 for LTE B41, power class 2 not supports UL CA.



**<LTE Band 38>**

SAR for LTE B38 is covered by LTE B41 due to overlapping frequency range, less or same maximum tune-up limit and the same channel bandwidth

**<LTE Band 41 power class 3>**

Power Selection				Head									
Transmit Antenna				Ant 0b / Ant 0c					Ant 1				
Max. Power				24.8					21				
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	2506	2549.5	2593	2636.5	2680
20	QPSK	1	0	24.60	24.49	24.45	24.45	24.43	20.49	20.44	20.44	20.50	20.51
20	QPSK	1	49	24.57	24.51	24.53	24.51	24.64	20.48	20.43	20.42	20.38	20.50
20	QPSK	1	99	24.61	24.52	24.54	24.52	24.78	20.50	20.42	20.43	20.39	20.50
20	QPSK	50	0	23.72	23.63	23.64	23.70	23.68	20.69	20.51	20.59	20.63	20.70
20	QPSK	50	24	23.72	23.61	23.67	23.70	23.73	20.68	20.54	20.67	20.62	20.76
20	QPSK	50	50	23.74	23.64	23.68	23.71	23.80	20.70	20.55	20.68	20.64	20.83
20	QPSK	100	0	23.74	23.60	23.65	23.69	23.75	20.65	20.57	20.63	20.66	20.73
20	16QAM	1	0	23.70	23.59	23.57	23.63	23.57	20.69	20.56	20.50	20.64	20.51
20	16QAM	1	49	23.65	23.55	23.62	23.64	23.70	20.61	20.54	20.58	20.60	20.68
20	16QAM	1	99	23.65	23.55	23.57	23.48	23.75	20.55	20.55	20.56	20.44	20.87
20	16QAM	50	0	22.76	22.66	22.65	22.73	22.71	20.69	20.62	20.62	20.72	20.70
20	16QAM	50	24	22.76	22.63	22.70	22.71	22.77	20.73	20.62	20.67	20.72	20.78
20	16QAM	50	50	22.78	22.59	22.70	22.68	22.80	20.74	20.58	20.69	20.67	20.86
20	16QAM	100	0	22.77	22.60	22.67	22.69	22.78	20.71	20.59	20.64	20.67	20.78
20	64QAM	1	0	22.48	22.36	22.29	22.42	22.32	20.39	20.29	20.26	20.36	20.28
20	64QAM	1	49	22.42	22.35	22.35	22.40	22.45	20.34	20.28	20.34	20.39	20.44
20	64QAM	1	99	22.37	22.30	22.33	22.25	22.61	20.28	20.24	20.29	20.20	20.59
20	64QAM	50	0	21.72	21.63	21.64	21.73	21.72	20.67	20.58	20.61	20.70	20.66
20	64QAM	50	24	21.73	21.63	21.68	21.72	21.76	20.68	20.59	20.65	20.67	20.74
20	64QAM	50	50	21.76	21.59	21.69	21.66	21.80	20.70	20.55	20.67	20.64	20.83
20	64QAM	100	0	21.74	21.60	21.65	21.69	21.78	20.69	20.57	20.63	20.68	20.76
Channel				39725	40173	40620	41068	41515	39725	40173	40620	41068	41515
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	2503.5	2548.3	2593	2637.8	2682.5
15	QPSK	1	0	24.61	24.45	24.50	24.58	24.48	20.42	20.44	20.40	20.34	20.44
15	QPSK	1	37	24.52	24.40	24.47	24.54	24.50	20.40	20.39	20.33	20.36	20.43
15	QPSK	1	74	24.61	24.45	24.54	24.51	24.71	20.50	20.39	20.40	20.33	20.48
15	QPSK	36	0	23.67	23.59	23.60	23.68	23.65	20.63	20.41	20.51	20.61	20.64
15	QPSK	36	20	23.71	23.61	23.66	23.69	23.73	20.60	20.48	20.62	20.55	20.66
15	QPSK	36	39	23.73	23.59	23.65	23.67	23.76	20.69	20.52	20.64	20.60	20.78
15	QPSK	75	0	23.74	23.60	23.65	23.68	23.73	20.56	20.51	20.62	20.62	20.70
15	16QAM	1	0	23.72	23.55	23.54	23.67	23.56	20.59	20.54	20.45	20.58	20.47
15	16QAM	1	37	23.67	23.58	23.54	23.61	23.68	20.52	20.44	20.51	20.59	20.62
15	16QAM	1	74	23.66	23.50	23.62	23.58	23.71	20.47	20.53	20.52	20.39	20.77
15	16QAM	36	0	22.65	22.56	22.58	22.64	22.63	20.67	20.52	20.58	20.62	20.68
15	16QAM	36	20	22.68	22.59	22.63	22.65	22.72	20.67	20.62	20.58	20.67	20.78
15	16QAM	36	39	22.69	22.54	22.62	22.61	22.75	20.73	20.53	20.60	20.62	20.77
15	16QAM	75	0	22.73	22.63	22.69	22.72	22.75	20.67	20.58	20.55	20.65	20.70
15	64QAM	1	0	22.48	22.29	22.28	22.42	22.35	20.32	20.22	20.18	20.28	20.22
15	64QAM	1	37	22.46	22.35	22.27	22.43	22.48	20.27	20.23	20.26	20.37	20.35
15	64QAM	1	74	22.43	22.27	22.34	22.34	22.56	20.24	20.21	20.25	20.16	20.54
15	64QAM	36	0	21.67	21.60	21.57	21.68	21.65	20.60	20.54	20.57	20.60	20.59
15	64QAM	36	20	21.72	21.61	21.65	21.67	21.74	20.67	20.56	20.62	20.61	20.65





**FCC SAR TEST REPORT**

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15	64QAM	36	39	21.72	21.56	21.66	21.64	21.79	20.62	20.48	20.67	20.64	20.82
15	64QAM	75	0	21.75	21.59	21.65	21.69	21.74	20.62	20.48	20.55	20.66	20.68
Channel				39700	40160	40620	41080	41540	39700	40160	40620	41080	41540
Frequency (MHz)				2501	2547	2593	2639	2685	2501	2547	2593	2639	2685
10	QPSK	1	0	24.42	24.31	24.32	24.35	24.39	20.41	20.40	20.35	20.30	20.44
10	QPSK	1	25	24.41	24.36	24.34	24.43	24.47	20.44	20.40	20.34	20.31	20.41
10	QPSK	1	49	24.47	24.37	24.39	24.43	24.50	20.40	20.40	20.36	20.29	20.46
10	QPSK	25	0	23.57	23.48	23.49	23.54	23.60	20.59	20.43	20.51	20.53	20.64
10	QPSK	25	12	23.58	23.50	23.52	23.57	23.61	20.60	20.47	20.63	20.56	20.67
10	QPSK	25	25	23.53	23.47	23.47	23.53	23.58	20.60	20.48	20.62	20.63	20.79
10	QPSK	50	0	23.58	23.52	23.51	23.57	23.63	20.65	20.47	20.55	20.65	20.65
10	16QAM	1	0	23.58	23.41	23.43	23.49	23.54	20.61	20.54	20.43	20.63	20.44
10	16QAM	1	25	23.49	23.45	23.45	23.48	23.56	20.58	20.45	20.55	20.54	20.58
10	16QAM	1	49	23.52	23.39	23.40	23.44	23.52	20.53	20.50	20.56	20.42	20.77
10	16QAM	25	0	22.59	22.53	22.51	22.57	22.62	20.63	20.56	20.54	20.64	20.69
10	16QAM	25	12	22.60	22.52	22.53	22.59	22.64	20.70	20.61	20.63	20.69	20.78
10	16QAM	25	25	22.56	22.48	22.47	22.55	22.59	20.73	20.48	20.63	20.65	20.83
10	16QAM	50	0	22.60	22.53	22.54	22.58	22.63	20.69	20.50	20.61	20.57	20.75
10	64QAM	1	0	22.27	22.18	22.18	22.24	22.31	20.30	20.23	20.22	20.26	20.23
10	64QAM	1	25	22.27	22.19	22.19	22.26	22.32	20.25	20.22	20.32	20.36	20.37
10	64QAM	1	49	22.22	22.17	22.13	22.21	22.31	20.19	20.20	20.20	20.12	20.56
10	64QAM	25	0	21.61	21.55	21.54	21.58	21.65	20.59	20.56	20.59	20.69	20.59
10	64QAM	25	12	21.64	21.56	21.56	21.62	21.66	20.68	20.51	20.59	20.60	20.74
10	64QAM	25	25	21.59	21.52	21.52	21.58	21.62	20.69	20.45	20.66	20.56	20.78
10	64QAM	50	0	21.59	21.52	21.52	21.57	21.62	20.67	20.48	20.62	20.67	20.74
Channel				39675	40148	40620	41093	41565	39675	40148	40620	41093	41565
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	2498.5	2545.8	2593	2640.30	2687.5
5	QPSK	1	0	24.46	24.48	24.46	24.46	24.54	20.49	20.44	20.37	20.35	20.45
5	QPSK	1	12	24.49	24.41	24.42	24.49	24.53	20.43	20.35	20.33	20.34	20.45
5	QPSK	1	24	24.47	24.42	24.44	24.50	24.51	20.47	20.32	20.37	20.32	20.47
5	QPSK	12	0	23.59	23.52	23.53	23.58	23.61	20.64	20.44	20.53	20.61	20.69
5	QPSK	12	7	23.65	23.56	23.57	23.63	23.66	20.58	20.52	20.59	20.58	20.68
5	QPSK	12	13	23.59	23.54	23.59	23.58	23.63	20.70	20.50	20.63	20.63	20.78
5	QPSK	25	0	23.58	23.52	23.53	23.58	23.63	20.57	20.56	20.54	20.63	20.63
5	16QAM	1	0	23.59	23.52	23.50	23.58	23.63	20.68	20.50	20.42	20.60	20.47
5	16QAM	1	12	23.57	23.51	23.49	23.57	23.63	20.53	20.50	20.52	20.52	20.66
5	16QAM	1	24	23.61	23.56	23.51	23.63	23.64	20.51	20.52	20.46	20.39	20.85
5	16QAM	12	0	22.58	22.52	22.51	22.57	22.60	20.66	20.58	20.53	20.64	20.67
5	16QAM	12	7	22.61	22.54	22.55	22.59	22.61	20.65	20.62	20.64	20.70	20.76
5	16QAM	12	13	22.58	22.50	22.53	22.55	22.65	20.65	20.52	20.66	20.58	20.80
5	16QAM	25	0	22.63	22.55	22.59	22.60	22.64	20.70	20.52	20.58	20.62	20.73
5	64QAM	1	0	22.33	22.27	22.32	22.33	22.41	20.35	20.29	20.21	20.27	20.22
5	64QAM	1	12	22.34	22.26	22.24	22.31	22.38	20.26	20.27	20.25	20.36	20.41
5	64QAM	1	24	22.40	22.29	22.29	22.39	22.42	20.26	20.24	20.26	20.16	20.54
5	64QAM	12	0	21.60	21.51	21.53	21.58	21.65	20.59	20.50	20.55	20.69	20.60
5	64QAM	12	7	21.63	21.56	21.55	21.62	21.69	20.58	20.56	20.64	20.63	20.69
5	64QAM	12	13	21.62	21.55	21.56	21.59	21.64	20.68	20.53	20.61	20.54	20.74
5	64QAM	25	0	21.63	21.56	21.55	21.64	21.69	20.69	20.54	20.60	20.62	20.74



Power Selection				Near body									
Transmit Antenna				Ant 0b					Ant 1 / Ant 0c				
Max. Power				20					24.8				
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	2506	2549.5	2593	2636.5	2680
20	QPSK	1	0	19.57	19.50	19.54	19.52	19.61	24.60	24.49	24.45	24.45	24.43
20	QPSK	1	49	19.53	19.43	19.52	19.44	19.58	24.57	24.51	24.53	24.51	24.64
20	QPSK	1	99	19.52	19.49	19.53	19.39	19.60	24.61	24.52	24.54	24.52	24.78
20	QPSK	50	0	19.74	19.52	19.60	19.67	19.73	23.72	23.63	23.64	23.70	23.68
20	QPSK	50	24	19.70	19.57	19.74	19.65	19.78	23.72	23.61	23.67	23.70	23.73
20	QPSK	50	50	19.75	19.58	19.75	19.70	19.85	23.74	23.64	23.68	23.71	23.80
20	QPSK	100	0	19.72	19.58	19.66	19.75	19.80	23.74	23.60	23.65	23.69	23.75
20	16QAM	1	0	19.72	19.66	19.56	19.64	19.52	23.70	23.59	23.57	23.63	23.57
20	16QAM	1	49	19.62	19.55	19.58	19.67	19.76	23.65	23.55	23.62	23.64	23.70
20	16QAM	1	99	19.63	19.58	19.61	19.52	19.89	23.65	23.55	23.57	23.48	23.75
20	16QAM	50	0	19.77	19.66	19.65	19.77	19.77	22.76	22.66	22.65	22.73	22.71
20	16QAM	50	24	19.82	19.64	19.70	19.77	19.84	22.76	22.63	22.70	22.71	22.77
20	16QAM	50	50	19.78	19.66	19.76	19.67	19.91	22.78	22.59	22.70	22.68	22.80
20	16QAM	100	0	19.79	19.60	19.74	19.71	19.84	22.77	22.60	22.67	22.69	22.78
20	64QAM	1	0	19.46	19.34	19.35	19.37	19.36	22.48	22.36	22.29	22.42	22.32
20	64QAM	1	49	19.39	19.36	19.35	19.41	19.47	22.42	22.35	22.35	22.40	22.45
20	64QAM	1	99	19.36	19.24	19.34	19.22	19.60	22.37	22.30	22.33	22.25	22.61
20	64QAM	50	0	19.73	19.66	19.61	19.72	19.67	21.72	21.63	21.64	21.73	21.72
20	64QAM	50	24	19.68	19.69	19.71	19.71	19.78	21.73	21.63	21.68	21.72	21.76
20	64QAM	50	50	19.76	19.59	19.67	19.74	19.90	21.76	21.59	21.69	21.66	21.80
20	64QAM	100	0	19.74	19.63	19.70	19.78	19.86	21.74	21.60	21.65	21.69	21.78
Channel				39725	40173	40620	41068	41515	39725	40173	40620	41068	41515
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	2503.5	2548.3	2593	2637.8	2682.5
15	QPSK	1	0	19.55	19.64	19.60	19.50	19.55	24.61	24.45	24.50	24.58	24.48
15	QPSK	1	37	19.60	19.54	19.51	19.51	19.63	24.52	24.40	24.47	24.54	24.50
15	QPSK	1	74	19.62	19.58	19.59	19.52	19.68	24.61	24.45	24.54	24.51	24.71
15	QPSK	36	0	19.74	19.57	19.71	19.75	19.77	23.67	23.59	23.60	23.68	23.65
15	QPSK	36	20	19.65	19.55	19.71	19.63	19.71	23.71	23.61	23.66	23.69	23.73
15	QPSK	36	39	19.75	19.54	19.64	19.69	19.87	23.73	23.59	23.65	23.67	23.76
15	QPSK	75	0	19.66	19.51	19.69	19.68	19.78	23.74	23.60	23.65	23.68	23.73
15	16QAM	1	0	19.64	19.62	19.53	19.58	19.57	23.72	23.55	23.54	23.67	23.56
15	16QAM	1	37	19.62	19.56	19.59	19.67	19.70	23.67	23.58	23.54	23.61	23.68
15	16QAM	1	74	19.56	19.57	19.60	19.52	19.77	23.66	23.50	23.62	23.58	23.71
15	16QAM	36	0	19.71	19.54	19.65	19.65	19.75	22.65	22.56	22.58	22.64	22.63
15	16QAM	36	20	19.67	19.71	19.66	19.67	19.85	22.68	22.59	22.63	22.65	22.72
15	16QAM	36	39	19.83	19.58	19.62	19.70	19.85	22.69	22.54	22.62	22.61	22.75
15	16QAM	75	0	19.70	19.62	19.58	19.68	19.79	22.73	22.63	22.69	22.72	22.75
15	64QAM	1	0	19.59	19.51	19.53	19.52	19.53	22.48	22.29	22.28	22.42	22.35
15	64QAM	1	37	19.53	19.53	19.53	19.58	19.60	22.46	22.35	22.27	22.43	22.48
15	64QAM	1	74	19.57	19.53	19.56	19.55	19.76	22.43	22.27	22.34	22.34	22.56
15	64QAM	36	0	19.66	19.60	19.62	19.66	19.63	21.67	21.60	21.57	21.68	21.65
15	64QAM	36	20	19.76	19.65	19.65	19.67	19.74	21.72	21.61	21.65	21.67	21.74
15	64QAM	36	39	19.71	19.53	19.68	19.67	19.86	21.72	21.56	21.66	21.64	21.79
15	64QAM	75	0	19.62	19.55	19.61	19.74	19.68	21.75	21.59	21.65	21.69	21.74
Channel				39700	40160	40620	41080	41540	39700	40160	40620	41080	41540
Frequency (MHz)				2501	2547	2593	2639	2685	2501	2547	2593	2639	2685



**FCC SAR TEST REPORT**

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10	QPSK	1	0	19.57	19.60	19.58	19.50	19.55	24.42	24.31	24.32	24.35	24.39
10	QPSK	1	25	19.61	19.54	19.54	19.51	19.51	24.41	24.36	24.34	24.43	24.47
10	QPSK	1	49	19.51	19.59	19.53	19.57	19.65	24.47	24.37	24.39	24.43	24.50
10	QPSK	25	0	19.77	19.53	19.64	19.67	19.79	23.57	23.48	23.49	23.54	23.60
10	QPSK	25	12	19.66	19.57	19.64	19.64	19.67	23.58	23.50	23.52	23.57	23.61
10	QPSK	25	25	19.70	19.57	19.66	19.65	19.83	23.53	23.47	23.47	23.53	23.58
10	QPSK	50	0	19.65	19.52	19.58	19.68	19.75	23.58	23.52	23.51	23.57	23.63
10	16QAM	1	0	19.70	19.61	19.50	19.66	19.54	23.58	23.41	23.43	23.49	23.54
10	16QAM	1	25	19.67	19.55	19.55	19.62	19.58	23.49	23.45	23.45	23.48	23.56
10	16QAM	1	49	19.55	19.56	19.57	19.52	19.82	23.52	23.39	23.40	23.44	23.52
10	16QAM	25	0	19.64	19.66	19.64	19.65	19.72	22.59	22.53	22.51	22.57	22.62
10	16QAM	25	12	19.73	19.65	19.64	19.73	19.86	22.60	22.52	22.53	22.59	22.64
10	16QAM	25	25	19.79	19.53	19.70	19.72	19.86	22.56	22.48	22.47	22.55	22.59
10	16QAM	50	0	19.70	19.52	19.61	19.58	19.79	22.60	22.53	22.54	22.58	22.63
10	64QAM	1	0	19.65	19.53	19.60	19.63	19.55	22.27	22.18	22.18	22.24	22.31
10	64QAM	1	25	19.61	19.62	19.70	19.71	19.72	22.27	22.19	22.19	22.26	22.32
10	64QAM	1	49	19.53	19.52	19.54	19.50	19.70	22.22	22.17	22.13	22.21	22.31
10	64QAM	25	0	19.68	19.62	19.62	19.73	19.60	21.61	21.55	21.54	21.58	21.65
10	64QAM	25	12	19.72	19.60	19.62	19.66	19.74	21.64	21.56	21.56	21.62	21.66
10	64QAM	25	25	19.73	19.52	19.73	19.61	19.82	21.59	21.52	21.52	21.58	21.62
10	64QAM	50	0	19.77	19.57	19.71	19.73	19.74	21.59	21.52	21.52	21.57	21.62
Channel				39675	40148	40620	41093	41565	39675	40148	40620	41093	41565
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	2498.5	2545.8	2593	2640.30	2687.5
5	QPSK	1	0	19.65	19.61	19.57	19.55	19.57	24.46	24.48	24.46	24.46	24.54
5	QPSK	1	12	19.54	19.50	19.53	19.53	19.65	24.49	24.41	24.42	24.49	24.53
5	QPSK	1	24	19.59	19.52	19.53	19.52	19.67	24.47	24.42	24.44	24.50	24.51
5	QPSK	12	0	19.64	19.53	19.57	19.67	19.69	23.59	23.52	23.53	23.58	23.61
5	QPSK	12	7	19.59	19.57	19.68	19.61	19.77	23.65	23.56	23.57	23.63	23.66
5	QPSK	12	13	19.72	19.53	19.70	19.65	19.88	23.59	23.54	23.59	23.58	23.63
5	QPSK	25	0	19.67	19.56	19.57	19.72	19.72	23.58	23.52	23.53	23.58	23.63
5	16QAM	1	0	19.78	19.52	19.50	19.63	19.56	23.59	23.52	23.50	23.58	23.63
5	16QAM	1	12	19.53	19.60	19.54	19.57	19.69	23.57	23.51	23.49	23.57	23.63
5	16QAM	1	24	19.60	19.56	19.53	19.52	19.90	23.61	23.56	23.51	23.63	23.64
5	16QAM	12	0	19.67	19.60	19.57	19.64	19.73	22.58	22.52	22.51	22.57	22.60
5	16QAM	12	7	19.68	19.63	19.70	19.70	19.77	22.61	22.54	22.55	22.59	22.61
5	16QAM	12	13	19.72	19.62	19.69	19.60	19.87	22.58	22.50	22.53	22.55	22.65
5	16QAM	25	0	19.79	19.57	19.62	19.62	19.74	22.63	22.55	22.59	22.60	22.64
5	64QAM	1	0	19.64	19.54	19.52	19.53	19.55	22.33	22.27	22.32	22.33	22.41
5	64QAM	1	12	19.52	19.50	19.53	19.58	19.66	22.34	22.26	22.24	22.31	22.38
5	64QAM	1	24	19.52	19.50	19.52	19.52	19.80	22.40	22.29	22.29	22.39	22.42
5	64QAM	12	0	19.63	19.53	19.57	19.75	19.63	21.60	21.51	21.53	21.58	21.65
5	64QAM	12	7	19.58	19.56	19.64	19.69	19.74	21.63	21.56	21.55	21.62	21.69
5	64QAM	12	13	19.78	19.55	19.61	19.58	19.83	21.62	21.55	21.56	21.59	21.64
5	64QAM	25	0	19.69	19.60	19.66	19.70	19.80	21.63	21.56	21.55	21.64	21.69



Power Selection				Hotspot									
Transmit Antenna				Ant 0b					Ant 0c / Ant 1				
Max. Power				20					24.8				
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	2506	2549.5	2593	2636.5	2680
20	QPSK	1	0	19.57	19.50	19.54	19.52	19.61	24.60	24.49	24.45	24.45	24.43
20	QPSK	1	49	19.53	19.43	19.52	19.44	19.58	24.57	24.51	24.53	24.51	24.64
20	QPSK	1	99	19.52	19.49	19.53	19.39	19.60	24.61	24.52	24.54	24.52	24.78
20	QPSK	50	0	19.74	19.52	19.60	19.67	19.73	23.72	23.63	23.64	23.70	23.68
20	QPSK	50	24	19.70	19.57	19.74	19.65	19.78	23.72	23.61	23.67	23.70	23.73
20	QPSK	50	50	19.75	19.58	19.75	19.70	19.85	23.74	23.64	23.68	23.71	23.80
20	QPSK	100	0	19.72	19.58	19.66	19.75	19.80	23.74	23.60	23.65	23.69	23.75
20	16QAM	1	0	19.72	19.66	19.56	19.64	19.52	23.70	23.59	23.57	23.63	23.57
20	16QAM	1	49	19.62	19.55	19.58	19.67	19.76	23.65	23.55	23.62	23.64	23.70
20	16QAM	1	99	19.63	19.58	19.61	19.52	19.89	23.65	23.55	23.57	23.48	23.75
20	16QAM	50	0	19.77	19.66	19.65	19.77	19.77	22.76	22.66	22.65	22.73	22.71
20	16QAM	50	24	19.82	19.64	19.70	19.77	19.84	22.76	22.63	22.70	22.71	22.77
20	16QAM	50	50	19.78	19.66	19.76	19.67	19.91	22.78	22.59	22.70	22.68	22.80
20	16QAM	100	0	19.79	19.60	19.74	19.71	19.84	22.77	22.60	22.67	22.69	22.78
20	64QAM	1	0	19.46	19.34	19.35	19.37	19.36	22.48	22.36	22.29	22.42	22.32
20	64QAM	1	49	19.39	19.36	19.35	19.41	19.47	22.42	22.35	22.35	22.40	22.45
20	64QAM	1	99	19.36	19.24	19.34	19.22	19.60	22.37	22.30	22.33	22.25	22.61
20	64QAM	50	0	19.73	19.66	19.61	19.72	19.67	21.72	21.63	21.64	21.73	21.72
20	64QAM	50	24	19.68	19.69	19.71	19.71	19.78	21.73	21.63	21.68	21.72	21.76
20	64QAM	50	50	19.76	19.59	19.67	19.74	19.90	21.76	21.59	21.69	21.66	21.80
20	64QAM	100	0	19.74	19.63	19.70	19.78	19.86	21.74	21.60	21.65	21.69	21.78
Channel				39725	40173	40620	41068	41515	39725	40173	40620	41068	41515
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	2503.5	2548.3	2593	2637.8	2682.5
15	QPSK	1	0	19.55	19.64	19.60	19.50	19.55	24.61	24.45	24.50	24.58	24.48
15	QPSK	1	37	19.60	19.54	19.51	19.51	19.63	24.52	24.40	24.47	24.54	24.50
15	QPSK	1	74	19.62	19.58	19.59	19.52	19.68	24.61	24.45	24.54	24.51	24.71
15	QPSK	36	0	19.74	19.57	19.71	19.75	19.77	23.67	23.59	23.60	23.68	23.65
15	QPSK	36	20	19.65	19.55	19.71	19.63	19.71	23.71	23.61	23.66	23.69	23.73
15	QPSK	36	39	19.75	19.54	19.64	19.69	19.87	23.73	23.59	23.65	23.67	23.76
15	QPSK	75	0	19.66	19.51	19.69	19.68	19.78	23.74	23.60	23.65	23.68	23.73
15	16QAM	1	0	19.64	19.62	19.53	19.58	19.57	23.72	23.55	23.54	23.67	23.56
15	16QAM	1	37	19.62	19.56	19.59	19.67	19.70	23.67	23.58	23.54	23.61	23.68
15	16QAM	1	74	19.56	19.57	19.60	19.52	19.77	23.66	23.50	23.62	23.58	23.71
15	16QAM	36	0	19.71	19.54	19.65	19.65	19.75	22.65	22.56	22.58	22.64	22.63
15	16QAM	36	20	19.67	19.71	19.66	19.67	19.85	22.68	22.59	22.63	22.65	22.72
15	16QAM	36	39	19.83	19.58	19.62	19.70	19.85	22.69	22.54	22.62	22.61	22.75
15	16QAM	75	0	19.70	19.62	19.58	19.68	19.79	22.73	22.63	22.69	22.72	22.75
15	64QAM	1	0	19.59	19.51	19.53	19.52	19.53	22.48	22.29	22.28	22.42	22.35
15	64QAM	1	37	19.53	19.53	19.53	19.58	19.60	22.46	22.35	22.27	22.43	22.48
15	64QAM	1	74	19.57	19.53	19.56	19.55	19.76	22.43	22.27	22.34	22.34	22.56
15	64QAM	36	0	19.66	19.60	19.62	19.66	19.63	21.67	21.60	21.57	21.68	21.65
15	64QAM	36	20	19.76	19.65	19.65	19.67	19.74	21.72	21.61	21.65	21.67	21.74
15	64QAM	36	39	19.71	19.53	19.68	19.67	19.86	21.72	21.56	21.66	21.64	21.79
15	64QAM	75	0	19.62	19.55	19.61	19.74	19.68	21.75	21.59	21.65	21.69	21.74
Channel				39700	40160	40620	41080	41540	39700	40160	40620	41080	41540
Frequency (MHz)				2501	2547	2593	2639	2685	2501	2547	2593	2639	2685



**FCC SAR TEST REPORT**

**Report No. : FA8N0616-06A**

10	QPSK	1	0	19.57	19.60	19.58	19.50	19.55	24.42	24.31	24.32	24.35	24.39
10	QPSK	1	25	19.61	19.54	19.54	19.51	19.51	24.41	24.36	24.34	24.43	24.47
10	QPSK	1	49	19.51	19.59	19.53	19.57	19.65	24.47	24.37	24.39	24.43	24.50
10	QPSK	25	0	19.77	19.53	19.64	19.67	19.79	23.57	23.48	23.49	23.54	23.60
10	QPSK	25	12	19.66	19.57	19.64	19.64	19.67	23.58	23.50	23.52	23.57	23.61
10	QPSK	25	25	19.70	19.57	19.66	19.65	19.83	23.53	23.47	23.47	23.53	23.58
10	QPSK	50	0	19.65	19.52	19.58	19.68	19.75	23.58	23.52	23.51	23.57	23.63
10	16QAM	1	0	19.70	19.61	19.50	19.66	19.54	23.58	23.41	23.43	23.49	23.54
10	16QAM	1	25	19.67	19.55	19.55	19.62	19.58	23.49	23.45	23.45	23.48	23.56
10	16QAM	1	49	19.55	19.56	19.57	19.52	19.82	23.52	23.39	23.40	23.44	23.52
10	16QAM	25	0	19.64	19.66	19.64	19.65	19.72	22.59	22.53	22.51	22.57	22.62
10	16QAM	25	12	19.73	19.65	19.64	19.73	19.86	22.60	22.52	22.53	22.59	22.64
10	16QAM	25	25	19.79	19.53	19.70	19.72	19.86	22.56	22.48	22.47	22.55	22.59
10	16QAM	50	0	19.70	19.52	19.61	19.58	19.79	22.60	22.53	22.54	22.58	22.63
10	64QAM	1	0	19.65	19.53	19.60	19.63	19.55	22.27	22.18	22.18	22.24	22.31
10	64QAM	1	25	19.61	19.62	19.70	19.71	19.72	22.27	22.19	22.19	22.26	22.32
10	64QAM	1	49	19.53	19.52	19.54	19.50	19.70	22.22	22.17	22.13	22.21	22.31
10	64QAM	25	0	19.68	19.62	19.62	19.73	19.60	21.61	21.55	21.54	21.58	21.65
10	64QAM	25	12	19.72	19.60	19.62	19.66	19.74	21.64	21.56	21.56	21.62	21.66
10	64QAM	25	25	19.73	19.52	19.73	19.61	19.82	21.59	21.52	21.52	21.58	21.62
10	64QAM	50	0	19.77	19.57	19.71	19.73	19.74	21.59	21.52	21.52	21.57	21.62
Channel				39675	40148	40620	41093	41565	39675	40148	40620	41093	41565
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	2498.5	2545.8	2593	2640.30	2687.5
5	QPSK	1	0	19.65	19.61	19.57	19.55	19.57	24.46	24.48	24.46	24.46	24.54
5	QPSK	1	12	19.54	19.50	19.53	19.53	19.65	24.49	24.41	24.42	24.49	24.53
5	QPSK	1	24	19.59	19.52	19.53	19.52	19.67	24.47	24.42	24.44	24.50	24.51
5	QPSK	12	0	19.64	19.53	19.57	19.67	19.69	23.59	23.52	23.53	23.58	23.61
5	QPSK	12	7	19.59	19.57	19.68	19.61	19.77	23.65	23.56	23.57	23.63	23.66
5	QPSK	12	13	19.72	19.53	19.70	19.65	19.88	23.59	23.54	23.59	23.58	23.63
5	QPSK	25	0	19.67	19.56	19.57	19.72	19.72	23.58	23.52	23.53	23.58	23.63
5	16QAM	1	0	19.78	19.52	19.50	19.63	19.56	23.59	23.52	23.50	23.58	23.63
5	16QAM	1	12	19.53	19.60	19.54	19.57	19.69	23.57	23.51	23.49	23.57	23.63
5	16QAM	1	24	19.60	19.56	19.53	19.52	19.90	23.61	23.56	23.51	23.63	23.64
5	16QAM	12	0	19.67	19.60	19.57	19.64	19.73	22.58	22.52	22.51	22.57	22.60
5	16QAM	12	7	19.68	19.63	19.70	19.70	19.77	22.61	22.54	22.55	22.59	22.61
5	16QAM	12	13	19.72	19.62	19.69	19.60	19.87	22.58	22.50	22.53	22.55	22.65
5	16QAM	25	0	19.79	19.57	19.62	19.62	19.74	22.63	22.55	22.59	22.60	22.64
5	64QAM	1	0	19.64	19.54	19.52	19.53	19.55	22.33	22.27	22.32	22.33	22.41
5	64QAM	1	12	19.52	19.50	19.53	19.58	19.66	22.34	22.26	22.24	22.31	22.38
5	64QAM	1	24	19.52	19.50	19.52	19.52	19.80	22.40	22.29	22.29	22.39	22.42
5	64QAM	12	0	19.63	19.53	19.57	19.75	19.63	21.60	21.51	21.53	21.58	21.65
5	64QAM	12	7	19.58	19.56	19.64	19.69	19.74	21.63	21.56	21.55	21.62	21.69
5	64QAM	12	13	19.78	19.55	19.61	19.58	19.83	21.62	21.55	21.56	21.59	21.64
5	64QAM	25	0	19.69	19.60	19.66	19.70	19.80	21.63	21.56	21.55	21.64	21.69



<LTE Band 41 power class 2>

Power Selection				Head									
Transmit Antenna				Ant 0b / Ant 0c					Ant 1				
Max. Power				26.8					23				
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	2506	2549.5	2593	2636.5	2680
20	QPSK	1	0	26.55	26.44	26.38	26.49	26.40	22.42	22.28	22.27	22.36	22.31
20	QPSK	1	49	26.51	26.44	26.46	26.48	26.56	22.31	22.28	22.31	22.36	22.41
20	QPSK	1	99	26.52	26.46	26.47	26.37	26.74	22.32	22.30	22.34	22.21	22.40
20	QPSK	50	0	25.69	25.65	25.65	25.73	25.63	22.57	22.49	22.52	22.62	22.56
20	QPSK	50	24	25.75	25.63	25.68	25.70	25.77	22.57	22.49	22.56	22.59	22.67
20	QPSK	50	50	25.77	25.59	25.69	25.66	24.77	22.60	22.45	22.55	22.55	22.73
20	QPSK	100	0	25.74	25.60	25.67	25.67	25.77	22.57	22.46	22.53	22.57	22.63
20	16QAM	1	0	25.75	25.74	25.71	25.80	25.72	22.65	22.51	22.54	22.66	22.57
20	16QAM	1	49	25.78	25.71	25.73	25.77	25.77	22.57	22.49	22.57	22.59	22.66
20	16QAM	1	99	25.80	25.74	25.73	25.63	25.78	22.56	22.52	22.56	22.46	22.88
20	16QAM	50	0	24.74	24.66	24.69	24.77	24.77	22.59	22.51	22.53	22.64	22.61
20	16QAM	50	24	24.76	24.64	24.72	24.75	24.80	22.60	22.51	22.59	22.62	22.67
20	16QAM	50	50	24.79	24.61	24.74	24.68	24.74	22.62	22.47	22.60	22.43	22.75
20	16QAM	100	0	24.75	24.62	24.68	24.70	24.71	22.56	22.46	22.56	22.60	22.65
20	64QAM	1	0	24.71	24.63	24.61	24.57	24.65	22.57	22.49	22.45	22.62	22.46
20	64QAM	1	49	24.69	24.63	24.66	24.62	24.68	22.50	22.46	22.51	22.54	22.64
20	64QAM	1	99	24.68	24.65	24.67	24.59	24.43	22.49	22.50	22.49	22.45	22.80
20	64QAM	50	0	23.75	23.64	23.66	23.69	23.73	22.59	22.52	22.55	22.65	22.59
20	64QAM	50	24	23.74	23.63	23.71	23.63	23.79	22.59	22.50	22.59	22.62	22.67
20	64QAM	50	50	23.79	23.61	23.72	23.54	23.61	22.61	22.49	22.59	22.60	22.76
20	64QAM	100	0	23.75	23.62	23.70	23.56	23.66	22.58	22.50	22.56	22.62	22.69
Channel				39725	40173	40620	41068	41515	39725	40173	40620	41068	41515
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	2503.5	2548.3	2593	2637.8	2682.5
15	QPSK	1	0	26.57	26.47	26.46	26.57	26.48	22.37	22.28	22.20	22.30	22.28
15	QPSK	1	37	26.58	26.51	26.54	26.57	26.59	22.29	22.27	22.29	22.32	22.31
15	QPSK	1	74	26.58	26.44	26.53	26.49	26.72	22.29	22.22	22.32	22.17	22.37
15	QPSK	36	0	25.69	25.64	25.63	25.73	25.70	22.49	22.44	22.44	22.56	22.55
15	QPSK	36	20	25.73	25.65	25.70	25.70	25.79	22.52	22.46	22.52	22.50	22.63
15	QPSK	36	39	25.71	25.59	25.69	25.67	25.80	22.58	22.38	22.47	22.53	22.70
15	QPSK	75	0	25.70	25.64	25.66	25.69	25.75	22.51	22.43	22.44	22.56	22.55
15	16QAM	1	0	25.75	25.70	25.69	25.75	25.73	22.62	22.41	22.48	22.66	22.53
15	16QAM	1	37	25.75	25.78	25.77	25.72	25.71	22.57	22.47	22.51	22.56	22.64
15	16QAM	1	74	25.77	25.64	25.75	25.71	25.72	22.54	22.43	22.53	22.46	22.85
15	16QAM	36	0	24.68	24.62	24.60	24.71	24.67	22.51	22.49	22.46	22.62	22.52
15	16QAM	36	20	24.71	24.65	24.70	24.72	24.79	22.57	22.42	22.49	22.55	22.67
15	16QAM	36	39	24.69	24.59	24.67	24.66	24.79	22.55	22.39	22.55	22.42	22.67
15	16QAM	75	0	24.73	24.65	24.71	24.74	24.79	22.52	22.37	22.49	22.60	22.65
15	64QAM	1	0	24.69	24.60	24.61	24.56	24.61	22.57	22.49	22.45	22.58	22.38
15	64QAM	1	37	24.70	24.70	24.66	24.59	24.70	22.45	22.40	22.49	22.47	22.54
15	64QAM	1	74	24.71	24.57	24.68	24.60	24.52	22.48	22.45	22.42	22.38	22.78
15	64QAM	36	0	23.70	23.63	23.64	23.69	23.73	22.57	22.49	22.54	22.65	22.49
15	64QAM	36	20	23.75	23.68	23.71	23.68	23.79	22.53	22.41	22.56	22.62	22.64
15	64QAM	36	39	23.73	23.61	23.70	23.61	23.68	22.53	22.49	22.55	22.54	22.75
15	64QAM	75	0	23.72	23.65	23.68	23.55	23.67	22.53	22.43	22.49	22.52	22.66
Channel				39700	40160	40620	41080	41540	39700	40160	40620	41080	41540
Frequency (MHz)				2501	2547	2593	2639	2685	2501	2547	2593	2639	2685



**FCC SAR TEST REPORT**

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10	QPSK	1	0	26.39	26.32	26.33	26.34	26.41	22.32	22.19	22.18	22.35	22.24
10	QPSK	1	25	26.38	26.31	26.37	26.38	26.43	22.30	22.20	22.26	22.35	22.33
10	QPSK	1	49	26.37	26.34	26.37	26.39	26.42	22.25	22.26	22.29	22.21	22.36
10	QPSK	25	0	25.59	25.49	25.52	25.58	25.64	22.50	22.43	22.50	22.60	22.52
10	QPSK	25	12	25.58	25.50	25.58	25.61	25.66	22.57	22.41	22.47	22.58	22.66
10	QPSK	25	25	25.56	25.51	25.53	25.59	25.61	22.58	22.40	22.50	22.46	22.72
10	QPSK	50	0	25.58	25.52	25.54	25.60	25.64	22.51	22.37	22.43	22.48	22.53
10	16QAM	1	0	25.67	25.63	25.59	25.63	25.70	22.63	22.41	22.45	22.64	22.55
10	16QAM	1	25	25.63	25.59	25.61	25.63	25.71	22.48	22.40	22.54	22.59	22.57
10	16QAM	1	49	25.63	25.57	25.60	25.65	25.71	22.51	22.49	22.54	22.42	22.79
10	16QAM	25	0	24.65	24.58	24.57	24.64	24.71	22.50	22.43	22.46	22.58	22.52
10	16QAM	25	12	24.66	24.60	24.61	24.62	24.67	22.50	22.42	22.59	22.52	22.59
10	16QAM	25	25	24.61	24.53	24.60	24.62	24.68	22.58	22.43	22.59	22.36	22.74
10	16QAM	50	0	24.61	24.57	24.59	24.65	24.67	22.56	22.43	22.54	22.54	22.58
10	64QAM	1	0	24.61	24.50	24.52	24.57	24.63	22.56	22.41	22.44	22.57	22.39
10	64QAM	1	25	24.55	24.53	24.53	24.61	24.64	22.46	22.39	22.50	22.46	22.58
10	64QAM	1	49	24.52	24.51	24.51	24.57	24.52	22.47	22.44	22.42	22.37	22.72
10	64QAM	25	0	23.69	23.62	23.63	23.65	23.73	22.53	22.50	22.54	22.56	22.54
10	64QAM	25	12	23.67	23.63	23.65	23.70	23.75	22.55	22.47	22.50	22.62	22.65
10	64QAM	25	25	23.62	23.59	23.62	23.70	23.70	22.53	22.42	22.52	22.59	22.66
10	64QAM	50	0	23.61	23.56	23.59	23.59	23.67	22.52	22.46	22.55	22.54	22.64
Channel				39675	40148	40620	41093	41565	39675	40148	40620	41093	41565
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	2498.5	2545.8	2593	2640.30	2687.5
5	QPSK	1	0	26.44	26.42	26.41	26.48	26.52	22.32	22.20	22.26	22.35	22.22
5	QPSK	1	12	26.42	26.37	26.38	26.42	26.49	22.27	22.27	22.24	22.26	22.31
5	QPSK	1	24	26.40	26.39	26.38	26.45	26.48	22.24	22.29	22.24	22.16	22.35
5	QPSK	12	0	25.64	25.55	25.56	25.62	25.66	22.48	22.49	22.52	22.62	22.47
5	QPSK	12	7	25.67	25.60	25.60	25.63	25.71	22.53	22.43	22.53	22.54	22.66
5	QPSK	12	13	25.63	25.58	25.56	25.67	25.69	22.56	22.43	22.51	22.50	22.63
5	QPSK	25	0	25.63	25.59	25.54	25.58	25.65	22.51	22.44	22.47	22.53	22.60
5	16QAM	1	0	25.66	25.65	25.62	25.69	25.72	22.55	22.46	22.52	22.64	22.48
5	16QAM	1	12	25.74	25.65	25.64	25.69	25.78	22.55	22.39	22.56	22.58	22.59
5	16QAM	1	24	25.74	25.65	25.62	25.71	25.79	22.55	22.48	22.53	22.40	22.87
5	16QAM	12	0	24.66	24.60	24.61	24.66	24.69	22.49	22.44	22.45	22.59	22.55
5	16QAM	12	7	24.70	24.63	24.65	24.71	24.76	22.55	22.47	22.54	22.57	22.60
5	16QAM	12	13	24.67	24.63	24.63	24.65	24.70	22.58	22.37	22.58	22.35	22.69
5	16QAM	25	0	24.68	24.64	24.59	24.68	24.73	22.50	22.40	22.48	22.58	22.61
5	64QAM	1	0	24.49	24.61	24.61	24.42	24.60	22.48	22.45	22.39	22.58	22.39
5	64QAM	1	12	24.61	24.57	24.59	24.63	24.63	22.45	22.43	22.48	22.50	22.63
5	64QAM	1	24	24.62	24.59	24.59	24.62	24.57	22.42	22.41	22.49	22.36	22.73
5	64QAM	12	0	23.59	23.63	23.62	23.69	23.70	22.51	22.49	22.45	22.60	22.55
5	64QAM	12	7	23.73	23.62	23.67	23.69	23.67	22.51	22.43	22.55	22.59	22.61
5	64QAM	12	13	23.68	23.61	23.66	23.70	23.64	22.55	22.41	22.56	22.50	22.75
5	64QAM	25	0	23.68	23.66	23.63	23.70	23.68	22.57	22.42	22.46	22.57	22.64



Power Selection				Near body									
Transmit Antenna				Ant 0b					Ant 1 / Ant 0c				
Max. Power				22					26.8				
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	2506	2549.5	2593	2636.5	2680
20	QPSK	1	0	21.60	21.51	21.57	21.56	21.57	26.55	26.44	26.38	26.49	26.40
20	QPSK	1	49	21.52	21.54	21.57	21.61	21.62	26.51	26.44	26.46	26.48	26.56
20	QPSK	1	99	21.53	21.57	21.60	21.50	21.62	26.52	26.46	26.47	26.37	26.74
20	QPSK	50	0	21.57	21.56	21.55	21.62	21.61	25.69	25.65	25.65	25.73	25.63
20	QPSK	50	24	21.64	21.57	21.61	21.67	21.68	25.75	25.63	25.68	25.70	25.77
20	QPSK	50	50	21.66	21.51	21.60	21.63	21.77	25.77	25.59	25.69	25.66	24.77
20	QPSK	100	0	21.59	21.55	21.56	21.61	21.69	25.74	25.60	25.67	25.67	25.77
20	16QAM	1	0	21.74	21.53	21.55	21.70	21.66	25.75	25.74	25.71	25.80	25.72
20	16QAM	1	49	21.66	21.51	21.59	21.66	21.72	25.78	25.71	25.73	25.77	25.77
20	16QAM	1	99	21.66	21.57	21.63	21.51	21.89	25.80	25.74	25.73	25.63	25.78
20	16QAM	50	0	21.69	21.54	21.56	21.65	21.70	24.74	24.66	24.69	24.77	24.77
20	16QAM	50	24	21.68	21.54	21.67	21.64	21.76	24.76	24.64	24.72	24.75	24.80
20	16QAM	50	50	21.63	21.53	21.60	21.55	21.84	24.79	24.61	24.74	24.68	24.74
20	16QAM	100	0	21.61	21.51	21.66	21.66	21.68	24.75	24.62	24.68	24.70	24.71
20	64QAM	1	0	21.61	21.54	21.53	21.67	21.51	24.71	24.63	24.61	24.57	24.65
20	64QAM	1	49	21.52	21.56	21.58	21.55	21.71	24.69	24.63	24.66	24.62	24.68
20	64QAM	1	99	21.55	21.54	21.54	21.52	21.81	24.68	24.65	24.67	24.59	24.43
20	64QAM	50	0	21.60	21.62	21.63	21.73	21.64	23.75	23.64	23.66	23.69	23.73
20	64QAM	50	24	21.60	21.57	21.69	21.64	21.68	23.74	23.63	23.71	23.63	23.79
20	64QAM	50	50	21.64	21.50	21.68	21.62	21.78	23.79	23.61	23.72	23.54	23.61
20	64QAM	100	0	21.65	21.50	21.58	21.71	21.77	23.75	23.62	23.70	23.56	23.66
Channel				39725	40173	40620	41068	41515	39725	40173	40620	41068	41515
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	2503.5	2548.3	2593	2637.8	2682.5
15	QPSK	1	0	21.63	21.57	21.54	21.52	21.57	26.57	26.47	26.46	26.57	26.48
15	QPSK	1	37	21.56	21.59	21.56	21.61	21.60	26.58	26.51	26.54	26.57	26.59
15	QPSK	1	74	21.57	21.56	21.56	21.55	21.61	26.58	26.44	26.53	26.49	26.72
15	QPSK	36	0	21.53	21.63	21.52	21.62	21.57	25.69	25.64	25.63	25.73	25.70
15	QPSK	36	20	21.53	21.63	21.56	21.53	21.63	25.73	25.65	25.70	25.70	25.79
15	QPSK	36	39	21.59	21.59	21.50	21.59	21.70	25.71	25.59	25.69	25.67	25.80
15	QPSK	75	0	21.54	21.53	21.59	21.65	21.59	25.70	25.64	25.66	25.69	25.75
15	16QAM	1	0	21.65	21.60	21.54	21.68	21.62	25.75	25.70	25.69	25.75	25.73
15	16QAM	1	37	21.58	21.52	21.57	21.65	21.72	25.75	25.78	25.77	25.72	25.71
15	16QAM	1	74	21.55	21.53	21.59	21.53	21.80	25.77	25.64	25.75	25.71	25.72
15	16QAM	36	0	21.54	21.58	21.54	21.63	21.58	24.68	24.62	24.60	24.71	24.67
15	16QAM	36	20	21.58	21.59	21.63	21.60	21.77	24.71	24.65	24.70	24.72	24.79
15	16QAM	36	39	21.57	21.60	21.59	21.58	21.76	24.69	24.59	24.67	24.66	24.79
15	16QAM	75	0	21.58	21.54	21.57	21.69	21.73	24.73	24.65	24.71	24.74	24.79
15	64QAM	1	0	21.67	21.54	21.61	21.60	21.60	24.69	24.60	24.61	24.56	24.61
15	64QAM	1	37	21.53	21.63	21.58	21.59	21.56	24.70	24.70	24.66	24.59	24.70
15	64QAM	1	74	21.56	21.56	21.55	21.59	21.78	24.71	24.57	24.68	24.60	24.52
15	64QAM	36	0	21.66	21.52	21.64	21.67	21.50	23.70	23.63	23.64	23.69	23.73
15	64QAM	36	20	21.56	21.61	21.57	21.64	21.72	23.75	23.68	23.71	23.68	23.79
15	64QAM	36	39	21.60	21.52	21.59	21.57	21.78	23.73	23.61	23.70	23.61	23.68
15	64QAM	75	0	21.61	21.51	21.57	21.54	21.76	23.72	23.65	23.68	23.55	23.67
Channel				39700	40160	40620	41080	41540	39700	40160	40620	41080	41540
Frequency (MHz)				2501	2547	2593	2639	2685	2501	2547	2593	2639	2685





10	QPSK	1	0	21.56	21.58	21.58	21.57	21.63	26.39	26.32	26.33	26.34	26.41
10	QPSK	1	25	21.54	21.61	21.55	21.65	21.57	26.38	26.31	26.37	26.38	26.43
10	QPSK	1	49	21.57	21.61	21.55	21.60	21.58	26.37	26.34	26.37	26.39	26.42
10	QPSK	25	0	21.60	21.53	21.54	21.64	21.61	25.59	25.49	25.52	25.58	25.64
10	QPSK	25	12	21.62	21.53	21.50	21.67	21.73	25.58	25.50	25.58	25.61	25.66
10	QPSK	25	25	21.58	21.59	21.57	21.53	21.74	25.56	25.51	25.53	25.59	25.61
10	QPSK	50	0	21.57	21.63	21.52	21.55	21.62	25.58	25.52	25.54	25.60	25.64
10	16QAM	1	0	21.73	21.55	21.51	21.70	21.60	25.67	25.63	25.59	25.63	25.70
10	16QAM	1	25	21.52	21.54	21.59	21.61	21.63	25.63	25.59	25.61	25.63	25.71
10	16QAM	1	49	21.51	21.51	21.62	21.55	21.82	25.63	25.57	25.60	25.65	25.71
10	16QAM	25	0	21.58	21.56	21.52	21.61	21.62	24.65	24.58	24.57	24.64	24.71
10	16QAM	25	12	21.53	21.50	21.64	21.53	21.65	24.66	24.60	24.61	24.62	24.67
10	16QAM	25	25	21.68	21.59	21.61	21.56	21.84	24.61	24.53	24.60	24.62	24.68
10	16QAM	50	0	21.61	21.57	21.64	21.55	21.65	24.61	24.57	24.59	24.65	24.67
10	64QAM	1	0	21.62	21.55	21.54	21.58	21.63	24.61	24.50	24.52	24.57	24.63
10	64QAM	1	25	21.52	21.61	21.53	21.53	21.68	24.55	24.53	24.53	24.61	24.64
10	64QAM	1	49	21.57	21.56	21.57	21.61	21.72	24.52	24.51	24.51	24.57	24.52
10	64QAM	25	0	21.63	21.60	21.55	21.63	21.59	23.69	23.62	23.63	23.65	23.73
10	64QAM	25	12	21.55	21.50	21.51	21.72	21.72	23.67	23.63	23.65	23.70	23.75
10	64QAM	25	25	21.54	21.55	21.58	21.65	21.69	23.62	23.59	23.62	23.70	23.70
10	64QAM	50	0	21.53	21.53	21.58	21.62	21.70	23.61	23.56	23.59	23.59	23.67
Channel				39675	40148	40620	41093	41565	39675	40148	40620	41093	41565
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	2498.5	2545.8	2593	2640.30	2687.5
5	QPSK	1	0	21.59	21.53	21.55	21.65	21.55	26.44	26.42	26.41	26.48	26.52
5	QPSK	1	12	21.53	21.53	21.54	21.58	21.55	26.42	26.37	26.38	26.42	26.49
5	QPSK	1	24	21.50	21.50	21.59	21.54	21.56	26.40	26.39	26.38	26.45	26.48
5	QPSK	12	0	21.52	21.53	21.58	21.68	21.56	25.64	25.55	25.56	25.62	25.66
5	QPSK	12	7	21.58	21.51	21.57	21.54	21.74	25.67	25.60	25.60	25.63	25.71
5	QPSK	12	13	21.60	21.51	21.57	21.50	21.64	25.63	25.58	25.56	25.67	25.69
5	QPSK	25	0	21.52	21.50	21.56	21.56	21.65	25.63	25.59	25.54	25.58	25.65
5	16QAM	1	0	21.65	21.51	21.60	21.66	21.57	25.66	25.65	25.62	25.69	25.72
5	16QAM	1	12	21.65	21.62	21.66	21.68	21.64	25.74	25.65	25.64	25.69	25.78
5	16QAM	1	24	21.56	21.56	21.57	21.59	21.89	25.74	25.65	25.62	25.71	25.79
5	16QAM	12	0	21.58	21.53	21.51	21.65	21.56	24.66	24.60	24.61	24.66	24.69
5	16QAM	12	7	21.58	21.57	21.64	21.59	21.63	24.70	24.63	24.65	24.71	24.76
5	16QAM	12	13	21.61	21.59	21.62	21.55	21.69	24.67	24.63	24.63	24.65	24.70
5	16QAM	25	0	21.51	21.50	21.55	21.59	21.69	24.68	24.64	24.59	24.68	24.73
5	64QAM	1	0	21.56	21.50	21.57	21.64	21.62	24.49	24.61	24.61	24.42	24.60
5	64QAM	1	12	21.56	21.50	21.58	21.53	21.67	24.61	24.57	24.59	24.63	24.63
5	64QAM	1	24	21.63	21.56	21.55	21.56	21.80	24.62	24.59	24.59	24.62	24.57
5	64QAM	12	0	21.57	21.56	21.50	21.61	21.56	23.59	23.63	23.62	23.69	23.70
5	64QAM	12	7	21.61	21.60	21.59	21.67	21.62	23.73	23.62	23.67	23.69	23.67
5	64QAM	12	13	21.59	21.50	21.66	21.53	21.80	23.68	23.61	23.66	23.70	23.64
5	64QAM	25	0	21.61	21.58	21.51	21.63	21.70	23.68	23.66	23.63	23.70	23.68



Power Selection				Hotspot									
Transmit Antenna				Ant 0b					Ant 1 / Ant 0c				
Max. Power				22					26.8				
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	2506	2549.5	2593	2636.5	2680
20	QPSK	1	0	21.60	21.51	21.57	21.56	21.57	26.55	26.44	26.38	26.49	26.40
20	QPSK	1	49	21.52	21.54	21.57	21.61	21.62	26.51	26.44	26.46	26.48	26.56
20	QPSK	1	99	21.53	21.57	21.60	21.50	21.62	26.52	26.46	26.47	26.37	26.74
20	QPSK	50	0	21.57	21.56	21.55	21.62	21.61	25.69	25.65	25.65	25.73	25.63
20	QPSK	50	24	21.64	21.57	21.61	21.67	21.68	25.75	25.63	25.68	25.70	25.77
20	QPSK	50	50	21.66	21.51	21.60	21.63	21.77	25.77	25.59	25.69	25.66	24.77
20	QPSK	100	0	21.59	21.55	21.56	21.61	21.69	25.74	25.60	25.67	25.67	25.77
20	16QAM	1	0	21.74	21.53	21.55	21.70	21.66	25.75	25.74	25.71	25.80	25.72
20	16QAM	1	49	21.66	21.51	21.59	21.66	21.72	25.78	25.71	25.73	25.77	25.77
20	16QAM	1	99	21.66	21.57	21.63	21.51	21.89	25.80	25.74	25.73	25.63	25.78
20	16QAM	50	0	21.69	21.54	21.56	21.65	21.70	24.74	24.66	24.69	24.77	24.77
20	16QAM	50	24	21.68	21.54	21.67	21.64	21.76	24.76	24.64	24.72	24.75	24.80
20	16QAM	50	50	21.63	21.53	21.60	21.55	21.84	24.79	24.61	24.74	24.68	24.74
20	16QAM	100	0	21.61	21.51	21.66	21.66	21.68	24.75	24.62	24.68	24.70	24.71
20	64QAM	1	0	21.61	21.54	21.53	21.67	21.51	24.71	24.63	24.61	24.57	24.65
20	64QAM	1	49	21.52	21.56	21.58	21.55	21.71	24.69	24.63	24.66	24.62	24.68
20	64QAM	1	99	21.55	21.54	21.54	21.52	21.81	24.68	24.65	24.67	24.59	24.43
20	64QAM	50	0	21.60	21.62	21.63	21.73	21.64	23.75	23.64	23.66	23.69	23.73
20	64QAM	50	24	21.60	21.57	21.69	21.64	21.68	23.74	23.63	23.71	23.63	23.79
20	64QAM	50	50	21.64	21.50	21.68	21.62	21.78	23.79	23.61	23.72	23.54	23.61
20	64QAM	100	0	21.65	21.50	21.58	21.71	21.77	23.75	23.62	23.70	23.56	23.66
Channel				39725	40173	40620	41068	41515	39725	40173	40620	41068	41515
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	2503.5	2548.3	2593	2637.8	2682.5
15	QPSK	1	0	21.63	21.57	21.54	21.52	21.57	26.57	26.47	26.46	26.57	26.48
15	QPSK	1	37	21.56	21.59	21.56	21.61	21.60	26.58	26.51	26.54	26.57	26.59
15	QPSK	1	74	21.57	21.56	21.56	21.55	21.61	26.58	26.44	26.53	26.49	26.72
15	QPSK	36	0	21.53	21.63	21.52	21.62	21.57	25.69	25.64	25.63	25.73	25.70
15	QPSK	36	20	21.53	21.63	21.56	21.53	21.63	25.73	25.65	25.70	25.70	25.79
15	QPSK	36	39	21.59	21.59	21.50	21.59	21.70	25.71	25.59	25.69	25.67	25.80
15	QPSK	75	0	21.54	21.53	21.59	21.65	21.59	25.70	25.64	25.66	25.69	25.75
15	16QAM	1	0	21.65	21.60	21.54	21.68	21.62	25.75	25.70	25.69	25.75	25.73
15	16QAM	1	37	21.58	21.52	21.57	21.65	21.72	25.75	25.78	25.77	25.72	25.71
15	16QAM	1	74	21.55	21.53	21.59	21.53	21.80	25.77	25.64	25.75	25.71	25.72
15	16QAM	36	0	21.54	21.58	21.54	21.63	21.58	24.68	24.62	24.60	24.71	24.67
15	16QAM	36	20	21.58	21.59	21.63	21.60	21.77	24.71	24.65	24.70	24.72	24.79
15	16QAM	36	39	21.57	21.60	21.59	21.58	21.76	24.69	24.59	24.67	24.66	24.79
15	16QAM	75	0	21.58	21.54	21.57	21.69	21.73	24.73	24.65	24.71	24.74	24.79
15	64QAM	1	0	21.67	21.54	21.61	21.60	21.60	24.69	24.60	24.61	24.56	24.61
15	64QAM	1	37	21.53	21.63	21.58	21.59	21.56	24.70	24.70	24.66	24.59	24.70
15	64QAM	1	74	21.56	21.56	21.55	21.59	21.78	24.71	24.57	24.68	24.60	24.52
15	64QAM	36	0	21.66	21.52	21.64	21.67	21.50	23.70	23.63	23.64	23.69	23.73
15	64QAM	36	20	21.56	21.61	21.57	21.64	21.72	23.75	23.68	23.71	23.68	23.79
15	64QAM	36	39	21.60	21.52	21.59	21.57	21.78	23.73	23.61	23.70	23.61	23.68
15	64QAM	75	0	21.61	21.51	21.57	21.54	21.76	23.72	23.65	23.68	23.55	23.67
Channel				39700	40160	40620	41080	41540	39700	40160	40620	41080	41540
Frequency (MHz)				2501	2547	2593	2639	2685	2501	2547	2593	2639	2685



10	QPSK	1	0	21.56	21.58	21.58	21.57	21.63	26.39	26.32	26.33	26.34	26.41
10	QPSK	1	25	21.54	21.61	21.55	21.65	21.57	26.38	26.31	26.37	26.38	26.43
10	QPSK	1	49	21.57	21.61	21.55	21.60	21.58	26.37	26.34	26.37	26.39	26.42
10	QPSK	25	0	21.60	21.53	21.54	21.64	21.61	25.59	25.49	25.52	25.58	25.64
10	QPSK	25	12	21.62	21.53	21.50	21.67	21.73	25.58	25.50	25.58	25.61	25.66
10	QPSK	25	25	21.58	21.59	21.57	21.53	21.74	25.56	25.51	25.53	25.59	25.61
10	QPSK	50	0	21.57	21.63	21.52	21.55	21.62	25.58	25.52	25.54	25.60	25.64
10	16QAM	1	0	21.73	21.55	21.51	21.70	21.60	25.67	25.63	25.59	25.63	25.70
10	16QAM	1	25	21.52	21.54	21.59	21.61	21.63	25.63	25.59	25.61	25.63	25.71
10	16QAM	1	49	21.51	21.51	21.62	21.55	21.82	25.63	25.57	25.60	25.65	25.71
10	16QAM	25	0	21.58	21.56	21.52	21.61	21.62	24.65	24.58	24.57	24.64	24.71
10	16QAM	25	12	21.53	21.50	21.64	21.53	21.65	24.66	24.60	24.61	24.62	24.67
10	16QAM	25	25	21.68	21.59	21.61	21.56	21.84	24.61	24.53	24.60	24.62	24.68
10	16QAM	50	0	21.61	21.57	21.64	21.55	21.65	24.61	24.57	24.59	24.65	24.67
10	64QAM	1	0	21.62	21.55	21.54	21.58	21.63	24.61	24.50	24.52	24.57	24.63
10	64QAM	1	25	21.52	21.61	21.53	21.53	21.68	24.55	24.53	24.53	24.61	24.64
10	64QAM	1	49	21.57	21.56	21.57	21.61	21.72	24.52	24.51	24.51	24.57	24.52
10	64QAM	25	0	21.63	21.60	21.55	21.63	21.59	23.69	23.62	23.63	23.65	23.73
10	64QAM	25	12	21.55	21.50	21.51	21.72	21.72	23.67	23.63	23.65	23.70	23.75
10	64QAM	25	25	21.54	21.55	21.58	21.65	21.69	23.62	23.59	23.62	23.70	23.70
10	64QAM	50	0	21.53	21.53	21.58	21.62	21.70	23.61	23.56	23.59	23.59	23.67
Channel				39675	40148	40620	41093	41565	39675	40148	40620	41093	41565
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	2498.5	2545.8	2593	2640.30	2687.5
5	QPSK	1	0	21.59	21.53	21.55	21.65	21.55	26.44	26.42	26.41	26.48	26.52
5	QPSK	1	12	21.53	21.53	21.54	21.58	21.55	26.42	26.37	26.38	26.42	26.49
5	QPSK	1	24	21.50	21.50	21.59	21.54	21.56	26.40	26.39	26.38	26.45	26.48
5	QPSK	12	0	21.52	21.53	21.58	21.68	21.56	25.64	25.55	25.56	25.62	25.66
5	QPSK	12	7	21.58	21.51	21.57	21.54	21.74	25.67	25.60	25.60	25.63	25.71
5	QPSK	12	13	21.60	21.51	21.57	21.50	21.64	25.63	25.58	25.56	25.67	25.69
5	QPSK	25	0	21.52	21.50	21.56	21.56	21.65	25.63	25.59	25.54	25.58	25.65
5	16QAM	1	0	21.65	21.51	21.60	21.66	21.57	25.66	25.65	25.62	25.69	25.72
5	16QAM	1	12	21.65	21.62	21.66	21.68	21.64	25.74	25.65	25.64	25.69	25.78
5	16QAM	1	24	21.56	21.56	21.57	21.59	21.89	25.74	25.65	25.62	25.71	25.79
5	16QAM	12	0	21.58	21.53	21.51	21.65	21.56	24.66	24.60	24.61	24.66	24.69
5	16QAM	12	7	21.58	21.57	21.64	21.59	21.63	24.70	24.63	24.65	24.71	24.76
5	16QAM	12	13	21.61	21.59	21.62	21.55	21.69	24.67	24.63	24.63	24.65	24.70
5	16QAM	25	0	21.51	21.50	21.55	21.59	21.69	24.68	24.64	24.59	24.68	24.73
5	64QAM	1	0	21.56	21.50	21.57	21.64	21.62	24.49	24.61	24.61	24.42	24.60
5	64QAM	1	12	21.56	21.50	21.58	21.53	21.67	24.61	24.57	24.59	24.63	24.63
5	64QAM	1	24	21.63	21.56	21.55	21.56	21.80	24.62	24.59	24.59	24.62	24.57
5	64QAM	12	0	21.57	21.56	21.50	21.61	21.56	23.59	23.63	23.62	23.69	23.70
5	64QAM	12	7	21.61	21.60	21.59	21.67	21.62	23.73	23.62	23.67	23.69	23.67
5	64QAM	12	13	21.59	21.50	21.66	21.53	21.80	23.68	23.61	23.66	23.70	23.64
5	64QAM	25	0	21.61	21.58	21.51	21.63	21.70	23.68	23.66	23.63	23.70	23.68

**<WLAN Conducted Power>****General Note:**

1. For each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode.
2. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6W/kg and SAR peak to location ratio  $\leq 0.04$ , no additional SAR measurements for MIMO.
3. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
4. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
5. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
6. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
  - a. When the reported SAR of the initial test position is  $\leq 0.4$  W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
  - b. When the reported SAR of the test position is  $> 0.4$  W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is  $\leq 0.8$  W/kg or all required test position are tested.
  - c. For all positions/configurations, when the reported SAR is  $> 0.8$  W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is  $\leq 1.2$  W/kg or all required channels are tested.



<2.4GHz WLAN>

Power Selection				Head			Head			Head						
Transmit Antenna				Ant 2			Ant 3			Ant 2+3						
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 3 Average power (dBm)	Ant 3 Tune-Up Limit	Ant 2+3 Average power (dBm)	Ant 2+3 Tune-Up Limit	Duty Cycle %	
2.4GHz WLAN	802.11b 1Mbps	1	2412	13.85	14.00	99.52	14.44	14.50	99.28	15.54	16.00	13.86	15.00	17.72	18.5	99.20
		6	2437	13.61	14.00		14.33	14.50		15.51	16.00	13.80	15.00	17.74	18.5	
		11	2462	13.76	14.00		14.48	14.50		15.31	16.00	13.65	15.00	17.71	18.5	
		12	2467	13.78	14.00		14.24	14.50		15.51	16.00	13.61	15.00	17.76	18.5	
		13	2472	13.76	14.00		13.59	14.50		14.00	14.50	14.20	14.50	17.11	17.5	
	802.11g 6Mbps	1	2412	13.47	14.00	98.33	14.10	14.50	98.33	15.30	16.00	13.70	15.00	17.52	18.5	98.33
		6	2437	13.60	14.00		14.39	14.50		15.20	16.00	13.56	15.00	17.40	18.5	
		11	2462	13.69	14.00		14.39	14.50		15.22	16.00	13.64	15.00	17.59	18.5	
		12	2467	13.62	14.00		13.60	14.00		13.60	14.00	13.60	14.00	16.61	17.0	
		13	2472	1.75	2.00		1.80	2.00		1.80	2.00	1.70	2.00	4.76	5.0	
	802.11n-HT20 MCS0	1	2412	13.54	14.00	98.21	14.32	14.50	98.21	15.33	16.00	13.40	15.00	17.52	18.5	98.21
		6	2437	13.61	14.00		14.40	14.50		15.49	16.00	13.39	15.00	17.64	18.5	
		11	2462	13.53	14.00		14.37	14.50		15.18	16.00	13.65	15.00	17.40	18.5	
		12	2467	13.60	14.00		14.15	14.50		15.00	15.50	13.47	15.00	17.31	18.3	
		13	2472	1.80	2.00		1.90	2.00		1.90	2.00	1.80	2.00	4.86	5.0	
	802.11ac-VHT20 MCS0	1	2412	13.60	14.00	97.87	14.23	14.50	97.17	15.30	16.00	13.65	15.00	17.66	18.5	97.61
		6	2437	13.43	14.00		14.20	14.50		15.69	16.00	13.58	15.00	17.72	18.5	
		11	2462	13.62	14.00		14.22	14.50		15.30	16.00	13.52	15.00	17.51	18.5	
		12	2467	13.44	14.00		14.32	14.50		14.90	15.50	13.68	15.00	17.34	18.3	
		13	2472	1.74	2.00		1.84	2.00		1.80	2.00	1.70	2.00	4.76	5.0	

Power Selection				Hotspot / Near body			Hotspot / Near body			Hotspot / Near body						
Transmit Antenna				Ant 2			Ant 3			Ant 2+3						
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 3 Average power (dBm)	Ant 3 Tune-Up Limit	Ant 2+3 Average power (dBm)	Ant 2+3 Tune-Up Limit	Duty Cycle %	
2.4GHz WLAN	802.11b 1Mbps	1	2412	16.64	17.00	99.52	18.27	18.50	99.28	20.40	20.50	19.39	19.50	22.93	23.0	99.20
		6	2437	16.88	17.00		18.23	18.50		20.21	20.50	19.37	19.50	22.86	23.0	
		11	2462	16.92	17.00		18.31	18.50		20.42	20.50	19.41	19.50	22.95	23.0	
		12	2467	16.49	17.00		17.80	18.00		17.60	18.00	17.70	18.00	20.66	21.0	
		13	2472	13.97	14.00		14.11	14.50		14.00	14.50	14.20	14.50	17.11	17.5	
	802.11g 6Mbps	1	2412	16.33	17.00	98.33	18.06	18.50	98.33	20.04	20.50	19.28	19.50	22.71	23.0	98.33
		6	2437	16.44	17.00		18.05	18.50		20.04	20.50	19.20	19.50	22.76	23.0	
		11	2462	16.56	17.00		18.13	18.50		18.70	19.00	18.50	19.00	21.61	22.0	
		12	2467	13.60	14.00		13.60	14.00		13.60	14.00	13.60	14.00	16.61	17.0	
		13	2472	1.70	2.00		1.80	2.00		1.80	2.00	1.70	2.00	4.76	5.0	
	802.11n-HT20 MCS0	1	2412	16.73	17.00	98.21	18.16	18.50	98.21	19.40	20.00	19.11	19.50	22.27	22.8	98.21
		6	2437	16.23	17.00		18.32	18.50		20.41	20.50	19.12	19.50	22.82	23.0	
		11	2462	16.45	17.00		18.29	18.50		18.30	18.50	18.10	18.50	21.21	21.5	
		12	2467	15.20	15.50		15.30	15.50		15.00	15.50	15.30	15.50	18.16	18.5	
		13	2472	1.90	2.00		1.90	2.00		1.90	2.00	1.80	2.00	4.86	5.0	
	802.11ac-VHT20 MCS0	1	2412	16.76	17.00	97.87	18.08	18.50	97.17	20.36	20.50	19.20	19.50	22.83	23.0	97.61
		6	2437	16.42	17.00		18.00	18.50		20.29	20.50	19.29	19.50	22.83	23.0	
		11	2462	16.77	17.00		18.07	18.50		18.20	18.50	18.00	18.50	21.11	21.5	
		12	2467	14.97	15.00		15.00	15.00		14.90	15.50	15.20	15.50	18.06	18.5	
		13	2472	1.75	2.00		1.78	2.00		1.80	2.00	1.70	2.00	4.76	5.0	



<5GHz WLAN>

Power Selection				Head			Head			Head						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps		36	5180	12.11	13.50	97.58	14.36	14.50	97.35	10.45	12.00	14.26	14.50	15.75	16.4
40			5200	12.07	13.50	14.34		14.50	10.49		12.00	14.23	14.50	15.70	16.4	
44			5220	12.21	13.50	14.04		14.50	10.48		12.00	14.26	14.50	15.79	16.4	
48			5240	12.20	13.50	14.27		14.50	10.44		12.00	14.16	14.50	15.71	16.4	
802.11n-HT20 MCS0		36	5180	12.11	13.50	97.43	14.28	14.50	97.41	10.51	12.00	14.29	14.50	15.63	16.4	97.83
		40	5200	12.12	13.50		14.44	14.50		10.42	12.00	14.25	14.50	15.79	16.4	
		44	5220	12.22	13.50		14.12	14.50		10.36	12.00	14.26	14.50	15.64	16.4	
		48	5240	12.21	13.50		14.00	14.50		10.54	12.00	14.21	14.50	15.86	16.4	
802.11n-HT40 MCS0		38	5190	12.35	13.50	95.45	14.48	14.50	95.45	10.48	12.00	14.18	14.50	15.82	16.4	95.45
		46	5230	12.38	13.50		14.30	14.50		10.65	12.00	14.25	14.50	15.85	16.4	
802.11ac-VHT20 MCS0		36	5180	12.21	13.50	97.88	14.13	14.50	97.98	10.36	12.00	14.22	14.50	15.77	16.4	97.00
		40	5200	12.02	13.50		14.23	14.50		10.49	12.00	14.28	14.50	15.87	16.4	
		44	5220	12.06	13.50		14.19	14.50		10.49	12.00	14.40	14.50	15.89	16.4	
		48	5240	12.04	13.50		14.17	14.50		10.61	12.00	14.13	14.50	15.64	16.4	
802.11ac-VHT40 MCS0		38	5190	12.14	13.50	95.98	14.32	14.50	95.98	10.52	12.00	14.20	14.50	15.80	16.4	95.48
		46	5230	12.00	13.50		14.22	14.50		10.52	12.00	14.27	14.50	15.69	16.4	
802.11ac-VHT80 MCS0		42	5210	12.26	13.50	91.67	14.31	14.50	90.87	10.42	12.00	14.13	14.50	15.87	16.4	92.15

Power Selection				Hotspot / Near body			Hotspot / Near body			Hotspot / Near body						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps		36	5180	14.77	15.50	97.58	17.50	18.00	97.35	14.28	15.00	17.66	18.00	19.39	19.8
40			5200	14.92	15.50	17.38		18.00	14.44		15.00	17.36	18.00	19.17	19.8	
44			5220	14.90	15.50	17.66		18.00	14.41		15.00	17.52	18.00	19.11	19.8	
48			5240	15.06	15.50	17.55		18.00	14.40		15.00	17.49	18.00	19.15	19.8	
802.11n-HT20 MCS0		36	5180	14.95	15.50	97.43	17.47	18.00	97.41	14.44	15.00	17.65	18.00	19.43	19.8	97.83
		40	5200	14.90	15.50		17.65	18.00		14.22	15.00	17.40	18.00	19.10	19.8	
		44	5220	14.90	15.50		17.33	18.00		14.07	15.00	17.24	18.00	18.91	19.8	
		48	5240	15.09	15.50		17.14	18.00		14.41	15.00	17.43	18.00	19.08	19.8	
802.11n-HT40 MCS0		38	5190	14.94	15.50	95.45	15.43	16.00	95.45	14.59	15.00	17.88	18.00	19.44	19.8	95.45
		46	5230	15.13	15.50		17.74	18.00		14.55	15.00	18.00	18.00	19.34	19.8	
802.11ac-VHT20 MCS0		36	5180	15.10	15.50	97.88	17.06	18.00	97.98	14.26	15.00	17.72	18.00	19.37	19.8	97.00
		40	5200	15.01	15.50		17.10	18.00		14.26	15.00	17.82	18.00	19.52	19.8	
		44	5220	15.21	15.50		17.21	18.00		13.93	15.00	17.76	18.00	19.39	19.8	
		48	5240	14.82	15.50		17.42	18.00		14.13	15.00	17.72	18.00	19.41	19.8	
802.11ac-VHT40 MCS0		38	5190	15.10	15.50	95.98	15.30	16.00	95.98	14.52	15.00	16.79	18.00	18.78	19.8	95.48
		46	5230	15.20	15.50		17.44	18.00		14.43	15.00	17.43	18.00	19.24	19.8	
802.11ac-VHT80 MCS0		42	5210	14.23	15.00	91.67	14.52	15.00	90.87	13.76	15.00	14.80	15.00	17.4	18.0	92.15



Power Selection				Head			Head			Head						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
				802.11a 6Mbps	52	5260	12.03	13.50	97.58	97.35	14.07	14.50	97.35	10.62	12.00	14.25
56	5280	12.14	13.50		14.05	14.50	10.59	12.00			14.39	14.50		15.78	16.4	
60	5300	12.09	13.50		14.04	14.50	10.55	12.00			14.16	14.50		15.76	16.4	
64	5320	12.23	13.50		14.02	14.50	10.51	12.00			14.35	14.50		15.92	16.4	
802.11n-HT20 MCS0	52	5260	12.33	13.50	97.43	97.41	14.13	14.50	97.41	10.64	12.00	14.38	14.50	15.90	16.4	97.83
	56	5280	12.21	13.50			14.19	14.50		10.68	12.00	14.37	14.50	15.86	16.4	
	60	5300	12.00	13.50			14.33	14.50		10.53	12.00	14.29	14.50	15.86	16.4	
	64	5320	12.12	13.50			14.08	14.50		10.55	12.00	14.25	14.50	15.64	16.4	
802.11n-HT40 MCS0	54	5270	12.48	13.50	95.45	95.45	14.29	14.50	95.45	10.54	12.00	14.30	14.50	15.67	16.4	95.45
	62	5310	12.26	13.50			14.14	14.50		10.63	12.00	14.22	14.50	15.67	16.4	
802.11ac-VHT20 MCS0	52	5260	12.32	13.50	97.88	97.98	14.15	14.50	97.98	10.52	12.00	14.11	14.50	15.77	16.4	97.00
	56	5280	12.04	13.50			14.15	14.50		10.57	12.00	14.15	14.50	15.81	16.4	
	60	5300	12.08	13.50			14.04	14.50		10.68	12.00	14.09	14.50	15.73	16.4	
	64	5320	12.30	13.50			14.35	14.50		10.66	12.00	14.18	14.50	15.88	16.4	
802.11ac-VHT40 MCS0	54	5270	12.14	13.50	95.98	95.98	14.37	14.50	95.98	10.59	12.00	14.27	14.50	15.97	16.4	95.48
	62	5310	12.16	13.50			14.19	14.50		10.52	12.00	14.13	14.50	15.68	16.4	
802.11ac-VHT80 MCS0	58	5290	11.97	13.50	91.67	91.67	14.31	14.50	90.87	10.60	12.00	14.27	14.50	16.00	16.4	92.15

Power Selection				Hotspot / Near body			Hotspot / Near body			Hotspot / Near body						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
				802.11a 6Mbps	52	5260	17.13	17.50	97.58	97.35	18.08	18.50	97.35	16.54	17.00	17.57
56	5280	17.19	17.50		18.26	18.50	16.58	17.00			17.50	18.00		20.19	20.5	
60	5300	17.11	17.50		17.82	18.50	16.47	17.00			17.48	18.00		20.03	20.5	
64	5320	17.08	17.50		17.89	18.50	16.42	17.00			17.44	18.00		19.97	20.5	
802.11n-HT20 MCS0	52	5260	17.25	17.50	97.43	97.41	17.98	18.50	97.41	16.91	17.00	17.76	18.00	20.33	20.5	97.83
	56	5280	17.07	17.50			17.58	18.50		16.96	17.00	17.83	18.00	20.48	20.5	
	60	5300	16.91	17.50			17.46	18.50		16.69	17.00	17.79	18.00	20.32	20.5	
	64	5320	17.07	17.50			17.72	18.50		16.66	17.00	17.82	18.00	20.28	20.5	
802.11n-HT40 MCS0	54	5270	17.37	17.50	95.45	95.45	18.10	18.50	95.45	17.00	17.00	18.00	18.00	20.43	20.5	95.45
	62	5310	17.50	17.50			17.69	18.50		16.83	17.00	17.96	18.00	20.47	20.5	
802.11ac-VHT20 MCS0	52	5260	17.19	17.50	97.88	97.98	17.48	18.50	97.98	16.73	17.00	17.91	18.00	20.31	20.5	97.00
	56	5280	17.05	17.50			17.74	18.50		16.88	17.00	17.72	18.00	20.30	20.5	
	60	5300	17.08	17.50			17.86	18.50		16.70	17.00	17.69	18.00	20.31	20.5	
	64	5320	16.92	17.50			17.96	18.50		16.72	17.00	17.67	18.00	20.25	20.5	
802.11ac-VHT40 MCS0	54	5270	17.17	17.50	95.98	95.98	17.65	18.50	95.98	16.60	17.00	17.75	18.00	20.13	20.5	95.48
	62	5310	17.39	17.50			17.79	18.50		16.71	17.00	17.56	18.00	20.24	20.5	
802.11ac-VHT80 MCS0	58	5290	15.35	16.50	91.67	91.67	15.42	16.50	90.87	14.75	16.50	15.76	16.50	18.32	19.5	92.15



Power Selection				Head			Head			Head						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
116	5580	13.88	14.50	15.11	15.50	11.19	11.50	14.27	14.50	15.97	16.3					
124	5620	14.00	14.50	15.30	15.50	11.18	11.50	14.33	14.50	16.01	16.3					
132	5660	14.00	14.50	15.20	15.50	11.05	11.50	14.50	14.50	16.18	16.3					
144	5720	13.69	14.50	15.23	15.50	10.99	11.50	14.45	14.50	16.08	16.3					
802.11n-HT20 MCS0	100	5500	13.82	14.50	97.43	15.08	15.50	97.41	11.16	11.50	14.47	14.50	16.04	16.3	97.83	
116	5580	14.02	14.50	15.12		15.50	11.25		11.50	14.40	14.50	16.05	16.3			
124	5620	14.12	14.50	15.30		15.50	11.24		11.50	14.38	14.50	15.96	16.3			
132	5660	14.20	14.50	15.22		15.50	11.22		11.50	14.35	14.50	16.04	16.3			
144	5720	13.79	14.50	15.25		15.50	11.20		11.50	14.50	14.50	16.02	16.3			
802.11n-HT40 MCS0	102	5510	13.84	14.50	95.45	15.19	15.50	95.45	11.07	11.50	14.45	14.50	16.02	16.3	95.45	
110	5550	13.75	14.50	15.33		15.50	10.98		11.50	14.27	14.50	16.10	16.3			
126	5630	13.73	14.50	15.23		15.50	11.18		11.50	14.24	14.50	16.11	16.3			
134	5670	13.86	14.50	15.39		15.50	11.06		11.50	14.49	14.50	16.06	16.3			
142	5710	13.81	14.50	15.34		15.50	11.12		11.50	14.48	14.50	16.04	16.3			
802.11ac-VHT20 MCS0	100	5500	13.60	14.50	97.88	14.92	15.50	97.98	11.08	11.50	14.36	14.50	16.00	16.3	97.00	
116	5580	13.50	14.50	15.14		15.50	11.20		11.50	14.35	14.50	16.10	16.3			
124	5620	13.84	14.50	15.06		15.50	11.27		11.50	14.40	14.50	16.03	16.3			
132	5660	13.72	14.50	15.21		15.50	11.03		11.50	14.50	14.50	16.08	16.3			
144	5720	13.56	14.50	15.26		15.50	10.96		11.50	14.30	14.50	15.97	16.3			
802.11ac-VHT40 MCS0	102	5510	13.85	14.50	95.98	15.15	15.50	95.98	11.14	11.50	14.21	14.50	16.12	16.3	95.48	
110	5550	13.84	14.50	15.24		15.50	10.96		11.50	14.26	14.50	15.96	16.3			
126	5630	14.07	14.50	14.95		15.50	11.17		11.50	14.32	14.50	16.10	16.3			
134	5670	13.97	14.50	15.36		15.50	11.11		11.50	14.30	14.50	15.89	16.3			
142	5710	13.84	14.50	15.41		15.50	11.00		11.50	14.33	14.50	16.01	16.3			
802.11ac-VHT80 MCS0	106	5530	13.68	14.50	91.67	15.35	15.50	90.87	10.86	11.50	14.38	14.50	16.00	16.3	92.15	
122	5610	13.91	14.50	15.39		15.50	11.32		11.50	14.30	14.50	16.08	16.3			
138	5690	13.68	14.50	15.25		15.50	10.75		11.50	14.30	14.50	15.97	16.3			





Power Selection				Hotspot / Near body			Hotspot / Near body			Hotspot / Near body						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Average	Tune-Up	Duty	Average	Tune-Up	Duty	Ant 2	Ant 2	Ant 5	Ant 5	Ant 2+5	Ant 2+5	Duty
				power	Limit		Cycle	power		Limit	Cycle	Average	Tune-Up	Average	Tune-Up	
				(dBm)		%	(dBm)		%	(dBm)	Limit	(dBm)	Limit	(dBm)	Limit	%
	802.11a 6Mbps	100	5500	18.78	19.00	97.58	16.89	17.50	97.35	15.74	16.00	15.98	16.00	18.82	19.0	97.26
		116	5580	18.22	19.00		16.89	17.50		15.80	16.00	15.73	16.00	18.72	19.0	
		124	5620	18.54	19.00		16.76	17.50		15.72	16.00	15.69	16.00	18.70	19.0	
		132	5660	18.74	19.00		16.50	17.50		15.68	16.00	15.74	16.00	18.62	19.0	
		144	5720	18.42	19.00		16.84	17.50		15.70	16.00	15.74	16.00	18.69	19.0	
	802.11n-HT20 MCS0	100	5500	18.94	19.50	97.43	16.69	17.50	97.41	15.72	16.00	15.71	16.00	18.84	19.0	97.83
		116	5580	19.07	19.50		16.63	17.50		15.76	16.00	15.75	16.00	18.78	19.0	
		124	5620	19.12	19.50		16.89	17.50		15.86	16.00	15.85	16.00	18.96	19.0	
		132	5660	19.12	19.50		16.85	17.50		15.78	16.00	15.70	16.00	18.61	19.0	
		144	5720	18.40	19.00		16.33	17.50		15.82	16.00	15.64	16.00	18.58	19.0	
	802.11n-HT40 MCS0	102	5510	16.13	16.50	95.45	16.50	16.50	95.45	15.74	16.00	15.91	16.00	18.73	19.0	95.45
		110	5550	19.44	19.50		17.39	17.50		15.86	16.00	15.75	16.00	18.81	19.0	
		126	5630	19.33	19.50		17.39	17.50		15.90	16.00	16.00	16.00	18.85	19.0	
		134	5670	19.05	19.50		17.25	17.50		15.77	16.00	15.64	16.00	18.70	19.0	
		142	5710	19.15	19.50		17.39	17.50		15.64	16.00	15.80	16.00	18.76	19.0	
	802.11ac-VHT20 MCS0	100	5500	18.92	19.50	97.88	16.44	17.50	97.98	15.78	16.00	15.66	16.00	18.76	19.0	97.00
		116	5580	18.96	19.50		16.36	17.50		15.82	16.00	15.89	16.00	18.74	19.0	
		124	5620	19.07	19.50		16.84	17.50		15.72	16.00	15.57	16.00	18.77	19.0	
		132	5660	19.14	19.50		16.88	17.50		15.84	16.00	15.95	16.00	18.96	19.0	
		144	5720	18.56	19.00		16.47	17.50		15.95	16.00	15.86	16.00	18.81	19.0	
802.11ac-VHT40 MCS0	102	5510	16.07	16.50	95.98	15.95	16.50	95.98	15.55	16.00	15.60	16.00	18.59	19.0	95.48	
	110	5550	18.87	19.50		16.65	17.50		15.78	16.00	15.80	16.00	18.84	19.0		
	126	5630	18.81	19.50		16.61	17.50		15.68	16.00	15.67	16.00	18.76	19.0		
	134	5670	18.83	19.50		16.53	17.50		15.83	16.00	15.70	16.00	18.77	19.0		
	142	5710	18.83	19.50		16.65	17.50		15.71	16.00	15.64	16.00	18.75	19.0		
802.11ac-VHT80 MCS0	106	5530	15.27	16.00	91.67	15.52	16.00	90.87	15.97	16.00	15.84	16.00	18.89	19.0	92.15	
	122	5610	19.00	19.50		17.17	17.50		16.00	16.00	15.99	16.00	18.89	19.0		
	138	5690	19.45	19.50		17.24	17.50		15.80	16.00	15.88	16.00	18.73	19.0		



Power Selection				Head			Head			Head						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	802.11a MCS0	149	5745	12.13	14.00	97.58	15.57	16.00	97.35	10.98	11.50	14.97	15.50	16.36	17.0	97.26
		157	5785	12.24	14.00		15.36	16.00		10.79	11.50	15.08	15.50	16.53	17.0	
		165	5825	12.15	14.00		15.52	16.00		10.86	11.50	14.93	15.50	16.34	17.0	
	802.11n-HT20 MCS0	149	5745	12.25	14.00	97.43	15.71	16.00	97.41	10.84	11.50	15.15	15.50	16.52	17.0	97.83
		157	5785	12.28	14.00		15.58	16.00		11.01	11.50	15.06	15.50	16.52	17.0	
		165	5825	12.13	14.00		15.52	16.00		11.00	11.50	15.03	15.50	16.51	17.0	
	802.11n-HT40 MCS0	151	5755	12.26	14.00	95.45	15.48	16.00	95.45	11.05	11.50	15.06	15.50	16.60	17.0	95.45
		159	5795	12.33	14.00		15.61	16.00		11.03	11.50	14.82	15.50	16.41	17.0	
802.11ac-VHT20 MCS0	149	5745	12.18	14.00	97.88	15.82	16.00	97.98	10.91	11.50	14.88	15.50	16.40	17.0	97.00	
	157	5785	12.34	14.00		15.62	16.00		10.99	11.50	15.04	15.50	16.58	17.0		
	165	5825	12.21	14.00		15.56	16.00		10.93	11.50	15.07	15.50	16.50	17.0		
802.11ac-VHT40 MCS0	151	5755	12.15	14.00	95.98	15.44	16.00	95.98	10.99	11.50	15.13	15.50	16.50	17.0	95.48	
	159	5795	12.06	14.00		15.79	16.00		11.02	11.50	15.10	15.50	16.59	17.0		
802.11ac-VHT80 MCS0	155	5775	12.45	14.00	91.67	15.73	16.00	90.87	11.04	11.50	15.06	15.50	16.47	17.0	92.15	

Power Selection				Hotspot / Near body			Hotspot / Near body			Hotspot / Near body						
Transmit Antenna				Ant 2			Ant 5			Ant 2+5						
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 2 Average power (dBm)	Ant 2 Tune-Up Limit	Ant 5 Average power (dBm)	Ant 5 Tune-Up Limit	Ant 2+5 Average power (dBm)	Ant 2+5 Tune-Up Limit	Duty Cycle %
	802.11a MCS0	149	5745	15.53	16.00	97.58	17.43	18.00	97.35	14.23	14.50	17.87	18.00	19.39	19.6	97.26
		157	5785	15.32	16.00		17.64	18.00		14.24	14.50	17.72	18.00	19.36	19.6	
		165	5825	15.47	16.00		17.62	18.00		14.35	14.50	17.84	18.00	19.42	19.6	
	802.11n-HT20 MCS0	149	5745	15.34	16.00	97.43	17.76	18.00	97.41	14.19	14.50	18.00	18.00	19.56	19.6	97.83
		157	5785	15.56	16.00		17.60	18.00		14.15	14.50	17.89	18.00	19.47	19.6	
		165	5825	15.31	16.00		17.82	18.00		14.35	14.50	17.95	18.00	19.46	19.6	
	802.11n-HT40 MCS0	151	5755	15.62	16.00	95.45	17.78	18.00	95.45	14.26	14.50	17.90	18.00	19.45	19.6	95.45
		159	5795	15.50	16.00		17.89	18.00		14.15	14.50	17.91	18.00	19.50	19.6	
802.11ac-VHT20 MCS0	149	5745	15.63	16.00	97.88	17.66	18.00	97.98	14.13	14.50	17.92	18.00	19.54	19.6	97.00	
	157	5785	15.40	16.00		17.64	18.00		14.28	14.50	17.82	18.00	19.31	19.6		
	165	5825	15.67	16.00		17.76	18.00		14.26	14.50	17.88	18.00	19.43	19.6		
802.11ac-VHT40 MCS0	151	5755	15.62	16.00	95.98	17.56	18.00	95.98	14.14	14.50	17.88	18.00	19.32	19.6	95.48	
	159	5795	15.31	16.00		17.74	18.00		14.08	14.50	17.85	18.00	19.46	19.6		
802.11ac-VHT80 MCS0	155	5775	15.61	16.00	91.67	17.65	18.00	90.87	14.42	14.50	18.00	18.00	19.58	19.6	92.15	



<2.4GHz Bluetooth>

General Note:

- For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 76.84% considered in SAR testing.

Power Selection			Head		
Transmit Antenna			Ant 2		
Max. Power			12.5	12.5	12.5
Mode	Channel	Frequency (MHz)	1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	11.20	12.10	11.60
	CH 39	2441	11.50	12.30	11.70
	CH 78	2480	11.00	11.90	11.60

Power Selection			Head	
Transmit Antenna			Ant 2	
Max. Power			12.5	12.5
Mode	Channel	Frequency (MHz)	1Mbps	2Mbps
LE	CH 00	2402	11.60	12.00
	CH 19	2440	11.90	12.30
	CH 39	2480	11.40	11.90

Power Selection			Hotspot / Near body		
Transmit Antenna			Ant 2		
Max. Power			19	19	19
Mode	Channel	Frequency (MHz)	1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	18.67	18.19	18.28
	CH 39	2441	18.60	18.07	18.16
	CH 78	2480	18.16	17.58	17.60

Power Selection			Hotspot / Near body	
Transmit Antenna			Ant 2	
Max. Power			13.5	13.5
Mode	Channel	Frequency (MHz)	1Mbps	2Mbps
LE	CH 00	2402	12.50	12.80
	CH 19	2440	12.80	13.10
	CH 39	2480	12.50	12.80

