

Appendix F. FCC 3G SAR Measurement Procedures

Conducted Output Power:

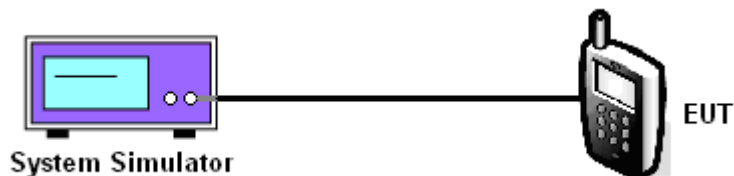
The EUT was tested according to the requirements of the FCC 3G procedures and the 3.1.2.3.4.

A detailed analysis of the output power verification is provided as the table below:

Function Type	Reverse Traffic Channel	Test Mode	Radio Configuration		Service Option	Data Rates (kbps)	Power Control	Low Ch	Mid. Ch	High Ch
			Forward Traffic Channel (Fwd)	Reverse Traffic Channel (Rvs)				1013	384	777
CDMA2000 Cellular	FCH	1	1	1	55	Full	All Up	24.51	24.40	24.41
		3	3	3	55	Full	All Up	24.50	24.37	24.50
		3	3	3	32	Full	All Up	24.49	24.39	24.51
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.45	24.34	24.41
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	24.61	24.50	24.52
	EVDO Rev.A*	Subtype:0				RETAP 4096	All Up	24.58	24.46	24.49

Function Type	Reverse Traffic Channel	Test Mode	Radio Configuration		Service Option	Data Rates (kbps)	Power Control	Low Ch	Mid. Ch	High Ch
			Forward Traffic Channel (Fwd)	Reverse Traffic Channel (Rvs)				25	600	1175
CDMA2000 PCS	FCH	1	1	1	55	Full	All Up	24.28	24.36	24.22
		3	3	3	55	Full	All Up	24.29	24.42	24.25
		3	3	3	32	Full	All Up	24.20	24.34	24.15
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.23	24.36	24.19
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	24.32	24.44	24.27
	EVDO Rev.A*	Subtype:0				RETAP 4096	All Up	24.38	24.41	24.28

CDMA2000 Setup Configuration:



Setup Configuration

1. The EUT was connected to System Simulator, Agilent 8960. Refer to the drawing of Setup Configuration.
2. The RF path losses were compensated into the measurements.
3. A call was established between EUT and System Simulator with following setting:
 - a. For 1xRTT, set the Radio Configuration and the Service Option
 - b. For 1xEV-DO, set the Protocol Release and Data Rate
 - c. Set the Power Control to All Up Bits
4. The transmitted maximum output power was recorded.

[illegible]

1xRTT setting for Radio Configuration 1 with Service Option 55

Call Setup Screen									
Call Control		Active Cell Operating Mode					Call Params		
<div>Close Menu</div>		<div>Mobile Station Information</div> <div> ESN (Hex): ESN (Dec): MCC: MNC: MSIN: Slot Class: Slot Cycle Index: ---- Protocol Revision: </div>					<div>Cell Power</div> <div>-86.00</div> <div>dBm/1.23 MHz</div>		
							<div>Cell Band</div> <div>US PCS</div>		
							<div>Channel</div> <div>1175</div>		
							<div>Protocol Rev</div> <div>6 (IS-2000-0)</div>		
							<div>Radio Config</div> <div>(Fud3, Rvs3)</div>		
							<div>S055 (Loopback)</div>		
							<div>FCH Service Option Setup</div>		
							<div>1 of 4</div>		

1xRTT setting for Radio Configuration 3 with Service Option 55

Call Setup Screen									
Call Control		Active Cell Operating Mode					Call Params		
<div>Close Menu</div>		<div>Mobile Station Information</div> <div> ESN (Hex): ESN (Dec): MCC: MNC: MSIN: Slot Class: Slot Cycle Index: ---- Protocol Revision: </div>					<div>Cell Power</div> <div>-86.00</div> <div>dBm/1.23 MHz</div>		
							<div>Cell Band</div> <div>US PCS</div>		
							<div>Channel</div> <div>1175</div>		
							<div>Protocol Rev</div> <div>6 (IS-2000-0)</div>		
							<div>Radio Config</div> <div>(Fud3, Rvs3)</div>		
							<div>S055 (Loopback)</div>		
							<div>FCH Service Option Setup</div>		
							<div>1 of 4</div>		

1xRTT setting for Radio Configuration 3 with Service Option 32

Call Setup Screen									
Call Control		Active Cell Operating Mode					Call Params		
Operating Mode		Access Terminal Information (AT Reported) Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal):					Rvs Power Ctrl		
Active Cell							Rvs Power Ctrl	Active bits	
Start Data Connection		Access Terminal Information (AN Assigned) UATI 024: ---- UATI Color Code: ---- NAC Index: ----					Pur Ctrl Step	1.0 dB	
							Call Drop Timer	On	
Close Session		Protocol Release Session App: 0 (1xEV-DO) Test Applica: A (1xEV-DO-A) Limited TAP: B (1xEV-DO-B) AT Directed: DRC Value Fi: ACK Channel:					Call Limit Mode	Off	
							Protocol Rel	0 (1xEV-DO)	
Handoff Setup									
AT Max Power	23 dBm/1.23MHz								
		Active Cell		Sys Type: IS-856					
		Idle							
1 of 3			IntRef	Offset		PLSub0	RTAP	2 of 3	

1xEV-DO setting for Protocol Release (Rev.0 or Rev.A)

Call Setup Screen									
Call Control		Active Cell Operating Mode					Call Params		
Operating Mode		Access Terminal Information (AT Reported) Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal):					Cell Power	-86.00	
Active Cell							Cell Power	dBm/1.23 MHz	
Start Data Connection		Access Terminal Information (AN Assigned) UATI 024: ---- UATI Color Code: ---- NAC Index: ----					Cell Band	US PCS	
							Channel	1175	
Close Session		RTAP Rate Session App: 9.6 kbps Test Applica: 19.2 kbps Limited TAP: 38.4 kbps AT Directed: 76.8 kbps DRC Value Fi: 153.6 kbps ACK Channel:					Application Config		
							FTAP Rate	307.2 kbps (2 Slot, QPSK)	
Handoff Setup							RTAP Rate	9.6 kbps	
AT Max Power	23 dBm/1.23MHz								
		Active Cell		Sys Type: IS-856					
		Idle							
1 of 3			IntRef	Offset		PLSub0	RTAP	1 of 3	

1xEV-DO setting for RTAP data rate (9.6 or 38.4 or 153.6 kbps)



Call Setup Screen						
Call Control		Active Cell Operating Mode			Call Params	
Operating Mode	Active Cell	Access Terminal Information (AT Reported)			Cell Power	
		Session Seed:			-86.00	
		Hardware ID Type (Hex):			dBm/1.23 MHz	
		Hardware ID (Hex):			Cell Band	
		Hardware ID (Decimal):			US PCS	
		Access Terminal Information (AN Assigned)			Channel	
Start Data Connection		UATI 024: ----			1175	
		UATI Color Code: ----				
		MAC Index: ----				
		Application Configuration			Application Config	
Close Session		Session App: R-Data Packet Size			Application	
		Enhanced Te: 128			AP	
		AT Directed: 256			Z	
		DRC Value Fi: 512				
Handoff Setup		ACK Channel: 768			Capacity	
		ACK Channel: 768			kbps	
		Reverse Data: 1024				
AT Max Power		Expected En: 1536			R-Traffic Format	
23 dBm/1.23MHz					4 (1024,2,128)	
					(307.2k, QPSK)	
					R-Data Pkt Size	
					128	
					bits	
		Active Cell			Sys Type: IS-856	
		Idle				
1 of 3			IntRef	Offset	PLSub0	RETAP
						1 of 3

1xEV-DO setting for RETAP data rate (128 or 2048 or 12288 kbps)



Reference:

- [1] SAR Measurement Procedures for 3G Devices CDMA 2000/Ev-Do/WCDMA/HSDPA, June 2006
Laboratory Division Office of Engineering and Technology Federal Communications Commission
- [2] 3.1.2.3.4 Maximum RF Output Power 3GPP2 C.S0033-0 Version 2.0, Date: 12 December 2003
Recommended Minimum Performance Standards for cdma2000 High Rate Packet Data Access
Terminal