

Appendix F. FCC 3G SAR Measurement Procedures

Conducted Output Power:

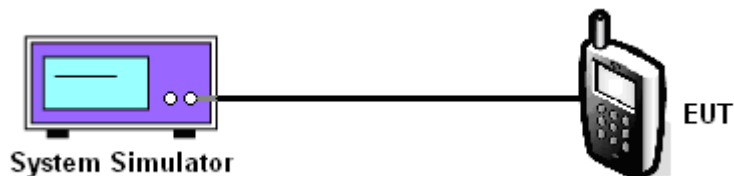
The EUT was tested according to the requirements of the FCC 3G procedures and the 3.1.2.3.4.

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	24.00	24.23	23.99
		3	3	3	55	Full	All Up	24.06	24.26	24.03
	FCH-SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.98	24.16	23.85
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.96	24.14	23.94
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	24.16	24.25	24.05
	EVDO Rev.A*	Subtype:0				RETAP 4096	All Up	24.15	24.17	24.02

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	24.07	24.01	24.10
		3	3	3	55	Full	All Up	24.17	23.90	23.96
	FCH-SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.07	23.91	23.97
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.11	24.00	24.06
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	24.16	24.14	23.70
	EVDO Rev.A*	Subtype:0				RETAP 4096	All Up	24.12	24.10	24.00

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.

Call Setup Screen									
Call Control	Active Cell Operating Mode						Call Parm		
	Mobile Station Information						Cell Power		
	ESN (Hex):						-86.00		
	ESN (Dec):						dBm/1.23 MHz		
	NCC:						Cell Band		
	INC:						US PCS		
	NSIN:						Channel		
	Slot Class:						1175		
	Slot Cycle Index: ----						Protocol Rev		
	Protocol Revision:						6 (IS-2000-0)		
	FCH Service Option Setup						Value		
Service Option for Fud1, Rvs1						S055 (Loopback)			
Service Option for S01 (Voice)						S09 (Loopback)			
Service Option for S02 (Loopback)						S055 (Loopback)			
Service Option for S03 (Voice)						S055 (Loopback)			
Service Option for S06 (SMS)						S055 (Loopback)			
S055 (Loopback)						Radio Config			
S068 (Voice)						(Fud1, Rvs1)			
						S055 (Loopback)			
Close Menu						FCH Service Option Setup			
Active Cell						Sys Type: IS-2000			
Idle									
IntRef Offset						1 of 4			

1xRTT setting for Radio Configuration 1 with Service Option 55

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

1xRTT setting for Radio Configuration 3 with Service Option 55

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

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): Access Terminal Information (AN Assigned) UATI 024: ---- UATI Color Code: ---- NAC Index: ---- 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:						Rvs Power Ctrl	
Active Cell								Active bits	
								Pur Ctrl Step	1.0 dB
Start Data Connection								Call Drop Timer	On
		Call Limit Mode	Off						
Close Session		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): Access Terminal Information (AN Assigned) UATI 024: ---- UATI Color Code: ---- NAC Index: ---- 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:						Cell Power	-86.00
Active Cell								dBm/1.23 MHz	
								Cell Band	US PCS
Start Data Connection								Channel	1175
		Application Config							
Close Session		FTAP Rate	307.2 kbps						
Handoff Setup		(2 Slot, QPSK)							
AT Max Power	23 dBm/1.23MHz	RTAP Rate	9.6 kbps						
		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) Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal):					Cell Power -86.00 dBm/1.23 MHz		
Start Data Connection		Access Terminal Information (AN Assigned) UATI 024: ---- UATI Color Code: ---- MAC Index: ----					Cell Band US PCS		
Close Session		Application Configuration Session App: R-Data Packet Size Enhanced Te: 128 AT Directed: 256 DRC Value Fi: 512 ACK Channel: 768 Reverse Data: 1024 Expected En: 1536					Channel 1175		
Handoff Setup		Application Capacity kbps					Application Config		
AT Max Power	23 dBm/1.23MHz						F-Traffic Format 4 (1024,2,128) (307.2k, QPSK)		
		Active Cell Idle					R-Data Pkt Size 128 bits		
		Sys Type: IS-856							
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