

Appendix G. FCC 3G SAR Measurement Procedures

Conducted Output Power:

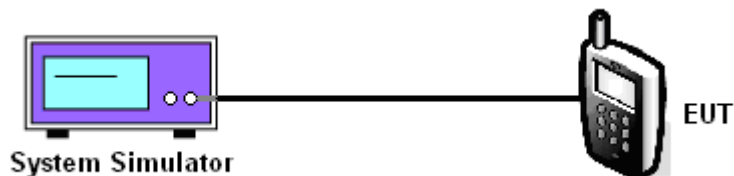
The EUT was tested according to the requirements of the FCC 3G procedures and the 3.1.2.3.4.

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	23.71	23.73	23.83
		3	3	3	55	Full	All Up	23.74	23.86	23.84
		3	3	3	32	Full	All Up	23.72	23.75	23.85
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.72	23.86	23.87
	EVDO Rev.0	Subtype:0				RTAP 153.6	All Up	23.88	23.89	24.07
	EVDO Rev.A	Subtype:0				RETAP 4096	All Up	23.88	23.90	24.04

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	23.97	23.41	23.62
		3	3	3	55	Full	All Up	23.94	23.79	23.60
		3	3	3	32	Full	All Up	23.96	23.79	23.66
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.96	23.81	23.63
	EVDO Rev.0	Subtype:0				RTAP 153.6	All Up	24.13	24.00	23.81
	EVDO Rev.A	Subtype:0				RETAP 4096	All Up	24.10	24.06	23.82

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 Parms	
Mobile Station Information ESN (Hex): ESN (Dec): NCC: NMC: MSIN: Slot Class: Slot Cycle Index: ---- Protocol Revision:		FCH Service Option Setup						Cell Power	
		Value						-86.00	
		Service Option for Fud1 Rvs1						dBm/1.23 MHz	
		Service Option for Fud1 Rvs1						Cell Band	
		Service Option for Fud1 Rvs1						US PCS	
		Service Option for Fud1 Rvs1						Channel	
		Service Option for Fud1 Rvs1						1175	
		Service Option for Fud1 Rvs1						Protocol Rev	
		Service Option for Fud1 Rvs1						6 (IS-2000-0)	
		Service Option for Fud1 Rvs1						Radio Config	
Service Option for Fud1 Rvs1						(Fud1, Rvs1)			
Service Option for Fud1 Rvs1						S055 (Loopback)			
Close Menu		Service Option S01 (Voice) S02 (Loopback) S03 (Voice) S06 (SMS) S055 (Loopback) S068 (Voice)						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 Parms	
	Mobile Station Information ESN (Hex): ESN (Dec): NCC: NMC: NSIN: 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			
						1 of 4			
Close Menu		Service Option S01 (Voice) S02 (Loopback) S03 (Voice) S06 (SMS) S055 (Loopback) S032 (+ F-SCH)				S055 (Loopback) S09 (Loopback) S055 (Loopback) S055 (Loopback) S055 (Loopback)			
		Active Cell				Sys Type: IS-2000			
		Idle							
		IntRef Offset							

1xRTT setting for Radio Configuration 3 with Service Option 55

Call Setup Screen											
Call Control		Active Cell Operating Mode						Call Parms			
Mobile Station Information ESN (Hex): ESN (Dec): NCC: NMC: NSIN: Slot Class: Slot Cycle Index: ----- Protocol Revision: FCH Service Option Setup Service Option for Fwd. Path Service Option for Rev. Path Service Option for Fwd. Path Service Option for Rev. Path Service Option for Fwd. Path Service Option for Rev. Path Service Option for Fwd. Path Service Option for Rev. Path Service Option for Fwd. Path Service Option for Rev. Path Service Option S02 (Loopback) S03 (Voice) S06 (SMS) S055 (Loopback) S032 (+ F-SCH) S032 (+ SCH) S055 (Loopback) S09 (Loopback) S032 (+ SCH) S055 (Loopback) S055 (Loopback)		Cell Power		-86.00 dBm/1.23 MHz							
		Cell Band		US PCS							
		Channel		1175							
		Protocol Rev		6 (IS-2000-0)							
		Radio Config		(Fud3, Rvs3)							
				S032 (+ SCH)							
		FCH Service Option Setup									
		Close Menu									
				Active Cell				Sys Type: IS-2000			
				Idle							
		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 Parm	
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	
Close Session								Call Limit Mode	
								Off	
Handoff Setup								Protocol Rel	
								0 (1xEV-DO)	
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 (AH Assigned) UATI 024: ---- UATI Color Code: ---- MAC 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	
Active Cell								-86.00	
Start Data Connection								dBm/1.23 MHz	
								Cell Band	
Close Session								US PCS	
Handoff Setup								Channel	
AT Max Power								1175	
23 dBm/1.23MHz									
								Application Config	
								FTAP Rate	
								307.2 kbps	
								(2 Slot, QPSK)	
								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)			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: ----				
	Close Session	Application Configuration			Application Config	
		R-Data Packet Size			F-Traffic Format	
		Session App: 128			4 (1024,2,128)	
		Enhanced Te: 256			(307.2k, QPSK)	
		AT Directed: 512			R-Data Pkt Size	
		DRC Value Fi: 768			128	
	Handoff Setup	ACK Channel: 1024			bits	
		ACK Channel: 1536				
	AT Max Power	Expected En: 1536				
	23 dBm/1.23MHz					
		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