



Appendix E. FCC 3G SAR Measurement Procedures

Conducted Output Power:

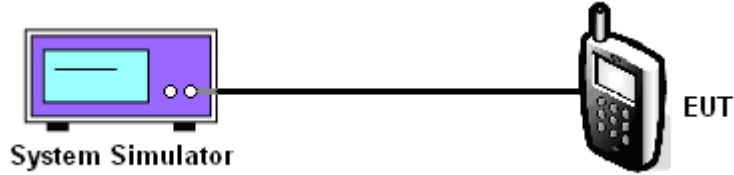
The EUT was tested according to the requirements of the FCC 3G procedures and the 3.1.2.3.4.

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	23.66	23.56	23.61
		3	3	3	55	Full	All Up	23.68	23.66	23.62
		3	3	3	32	Full	All Up	23.66	23.64	23.60
	FCH+SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.62	23.62	23.53
	EVDO Rev.0*	Subtype:0/1				RTAP 153.6	All Up	23.61	23.64	23.56
	EVDO Rev.A*	Subtype:2				RETAP 4096	All Up	23.64	23.62	23.55

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	23.69	23.64	23.55
		3	3	3	55	Full	All Up	23.86	23.72	23.61
		3	3	3	32	Full	All Up	23.81	23.70	23.58
	FCH+SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.74	23.65	23.51
	EVDO Rev.0*	Subtype:0/1				RTAP 153.6	All Up	23.80	23.66	23.56
	EVDO Rev.A*	Subtype:2				RETAP 4096	All Up	23.78	23.68	23.56

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																																		
	<table border="1"> <thead> <tr> <th colspan="2">Mobile Station Information</th> </tr> </thead> <tbody> <tr><td>ESN (Hex):</td><td></td></tr> <tr><td>ESN (Dec):</td><td></td></tr> <tr><td>NCC:</td><td></td></tr> <tr><td>INC:</td><td></td></tr> <tr><td>NSIN:</td><td></td></tr> <tr><td>Slot Class:</td><td></td></tr> <tr><td>Slot Cycle Index:</td><td>----</td></tr> <tr><td>Protocol Revision:</td><td></td></tr> </tbody> </table>	Mobile Station Information		ESN (Hex):		ESN (Dec):		NCC:		INC:		NSIN:		Slot Class:		Slot Cycle Index:	----	Protocol Revision:		<table border="1"> <tbody> <tr><td>Cell Power</td><td>-86.00</td></tr> <tr><td></td><td>dBm/1.23 MHz</td></tr> <tr><td>Cell Band</td><td>US PCS</td></tr> <tr><td>Channel</td><td>1175</td></tr> <tr><td>Protocol Rev</td><td>6 (IS-2000-0)</td></tr> <tr><td>Radio Config</td><td>(Fud1, Rus1)</td></tr> <tr><td></td><td>S055 (Loopback)</td></tr> <tr><td>FCH Service Option Setup</td><td></td></tr> </tbody> </table>	Cell Power	-86.00		dBm/1.23 MHz	Cell Band	US PCS	Channel	1175	Protocol Rev	6 (IS-2000-0)	Radio Config	(Fud1, Rus1)		S055 (Loopback)	FCH Service Option Setup	
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Active Cell	Idle	Sys Type: IS-2000																																		
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 Parm																			
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																			
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	Service Option	Value																						
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S055 (Loopback)																								
S032 (+ F-SCH)																								
Active Cell Idle				Sys Type: IS-2000																				
IntRef Offset				FCH Service Option Setup																				
				1 of 4																				

1xRTT setting for Radio Configuration 3 with Service Option 55

Call Setup Screen																								
Call Control	Active Cell Operating Mode				Call Parm																			
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																			
	FCH Service Option Setup				Protocol Rev 6 (IS-2000-0)																			
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Active Cell Idle				Sys Type: IS-2000																				
IntRef Offset				FCH Service Option Setup																				
				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	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; background-color: #e0e0e0;">Access Terminal Information (AT Reported)</p> <p>Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal):</p> <hr/> <p style="text-align: center; background-color: #e0e0e0;">Access Terminal Information (AN Assigned)</p> <p>UATI 024: ---- UATI Color Code: ---- NAC Index: ----</p> <hr/> <p style="text-align: center; background-color: #e0e0e0;">Protocol Release</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Session App: 0 (1xEV-DO)</td> <td style="width: 50%;">Application</td> </tr> <tr> <td>Test Applica: A (1xEV-DO-A)</td> <td></td> </tr> <tr> <td>Limited TAP: B (1xEV-DO-B)</td> <td></td> </tr> <tr> <td>AT Directed</td> <td></td> </tr> <tr> <td>DRC Value Fi</td> <td></td> </tr> <tr> <td>ACK Channel</td> <td></td> </tr> </table> </div>	Session App: 0 (1xEV-DO)	Application	Test Applica: A (1xEV-DO-A)		Limited TAP: B (1xEV-DO-B)		AT Directed		DRC Value Fi		ACK Channel		Rvs Power Ctrl
Session App: 0 (1xEV-DO)		Application												
Test Applica: A (1xEV-DO-A)														
Limited TAP: B (1xEV-DO-B)														
AT Directed														
DRC Value Fi														
ACK Channel														
Active Cell		Active bits												
Start Data Connection		Pur Ctrl Step												
Close Session		1.0 dB												
Handoff Setup	Call Drop Timer													
AT Max Power	On													
23 dBm/1.23MHz	Call Limit Mode													
	Off													
	Protocol Rel													
	0 (1xEV-DO)													
1 of 3	Active Cell													
	Idle	Sys Type: IS-856												
	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 Parm												
Operating Mode	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; background-color: #e0e0e0;">Access Terminal Information (AT Reported)</p> <p>Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal):</p> <hr/> <p style="text-align: center; background-color: #e0e0e0;">Access Terminal Information (AN Assigned)</p> <p>UATI 024: ---- UATI Color Code: ---- NAC Index: ----</p> <hr/> <p style="text-align: center; background-color: #e0e0e0;">RTAP Rate</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Session App: 9.6 kbps</td> <td style="width: 50%;">Application</td> </tr> <tr> <td>Test Applica: 19.2 kbps</td> <td></td> </tr> <tr> <td>Limited TAP: 38.4 kbps</td> <td></td> </tr> <tr> <td>AT Directed: 76.8 kbps</td> <td></td> </tr> <tr> <td>DRC Value Fi: 153.6 kbps</td> <td></td> </tr> <tr> <td>ACK Channel</td> <td></td> </tr> </table> </div>	Session App: 9.6 kbps	Application	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
Session App: 9.6 kbps		Application												
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DRC Value Fi: 153.6 kbps														
ACK Channel														
Active Cell		-86.00												
Start Data Connection		dBm/1.23 MHz												
Close Session		Cell Band												
Handoff Setup	US PCS													
AT Max Power	Channel													
23 dBm/1.23MHz	1175													
	Application Config													
	FTAP Rate													
	307.2 kbps													
	(2 Slot, QPSK)													
	RTAP Rate													
	9.6 kbps													
1 of 3	Active Cell													
	Idle	Sys Type: IS-856												
	IntRef	Offset												
	PLSub0	RTAP												
		1 of 3												

1xEV-DO setting for RTAP data rate



Call Setup Screen																				
Call Control	Active Cell Operating Mode				Call Parms															
Operating Mode	Access Terminal Information (AT Reported)				Cell Power															
Active Cell	Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal):				-86.00															
	Access Terminal Information (AM Assigned)				dBm/1.23 MHz															
Start Data Connection	UATI 024: ---- UATI Color Code: ---- MAC Index: ----				Cell Band															
	Application Configuration				US PCS															
Close Session	<table border="1"> <thead> <tr> <th>R-Data Packet Size</th> <th>Application</th> </tr> </thead> <tbody> <tr> <td>128</td> <td>AP</td> </tr> <tr> <td>256</td> <td>Z</td> </tr> <tr> <td>512</td> <td></td> </tr> <tr> <td>768</td> <td></td> </tr> <tr> <td>1024</td> <td>Capacity</td> </tr> <tr> <td>1536</td> <td>kbps</td> </tr> </tbody> </table>				R-Data Packet Size	Application	128	AP	256	Z	512		768		1024	Capacity	1536	kbps	Channel	
R-Data Packet Size	Application																			
128	AP																			
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768																				
1024	Capacity																			
1536	kbps																			
Handoff Setup					1175															
AT Max Power					Application Config															
23 dBm/1.23MHz					F-Traffic Format															
	Active Cell				4 (1024,2,128)															
	Idle				(307.2k, QPSK)															
	Sys Type: IS-856				R-Data Pkt Size															
	IntRef Offset				128															
1 of 3	PLSub0 RETAP				bits															
					1 of 3															

1xEV-DO setting for RETAP data rate



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