



Appendix F - FCC 3G SAR Measurement Procedures

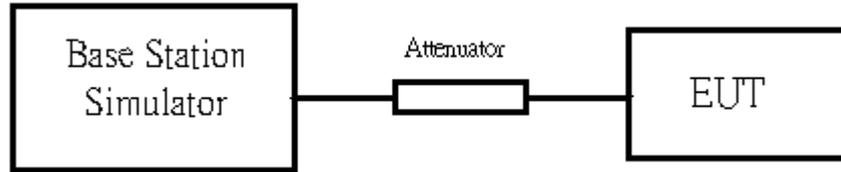
Conducted Output Power:

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	Midd Ch	High Ch
			Forward Traffic Channel (Fwd)	Reverse Traffic Channel (Rvs)				1013	384	777
CDMA2000 Cellular	FCH	1	1	1	55	Full	All Up	21.63	21.51	21.96
		3	3	3	55	Full	All Up	21.65	22.24	21.99
	FCH+SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	21.59	21.62	21.70
	EVDO Rev.0*	Subtype:0		UL:9.6	All Up	20.29	20.72	20.53		
	EVDO Rev.0*	Subtype:0		UL:38.4	All Up	21.18	20.28	20.41		
	EVDO Rev.0*	Subtype:0		UL:153.6	All Up	20.05	20.42	20.55		
	EVDO Rev.A*	Subtype:0		RETAP_128Kbps	All Up	20.18	20.69	20.77		
	EVDO Rev.A*	Subtype:0		RETAP_2048Kbps	All Up	20.23	20.88	20.67		
	EVDO Rev.A*	Subtype:0		RETAP_4096Kbps	All Up	20.29	20.19	20.25		
EVDO Rev.A*	Subtype:0		RETAP_12288Kbps	All Up	20.39	20.44	20.66			

Function Type	Reverse Traffic Channel	Test Mode	Radio Configuration		Service Option	Data Rates (kbps)	Power Control	Low Ch	Midd Ch	High Ch
			Forward Traffic Channel (Fwd)	Reverse Traffic Channel (Rvs)				25	600	1175
CDMA2000 PCS	FCH	1	1	1	55	Full	All Up	18.31	18.04	18.08
		3	3	3	55	Full	All Up	18.33	18.12	18.03
	FCH+SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	18.15	18.03	17.92
	EVDO Rev.0*	Subtype:0		UL:9.6	All Up	18.16	18.04	17.94		
	EVDO Rev.0*	Subtype:0		UL:38.4	All Up	18.10	17.94	17.89		
	EVDO Rev.0*	Subtype:0		UL:153.6	All Up	18.11	17.93	17.88		
	EVDO Rev.A*	Subtype:0		RETAP_128Kbps	All Up	18.27	18.24	18.05		
	EVDO Rev.A*	Subtype:0		RETAP_2048Kbps	All Up	17.94	17.80	17.81		
	EVDO Rev.A*	Subtype:0		RETAP_4096Kbps	All Up	18.00	17.86	17.70		
EVDO Rev.A*	Subtype:0		RETAP_12288Kbps	All Up	18.04	17.90	17.80			

CDMA2000 Setup Configuration:



Setup Configuration

1. The EUT was connected to Base Station, 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 Base Station with following setting:
 - a. Set the test mode1 and test mode 3.
 - b. Set the Power control All Up for (FCH) and (FCH+SCH).
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>0x6C32D3AE</td> </tr> <tr> <td>ESN (Dec):</td> <td>108-03330990</td> </tr> <tr> <td>NCC:</td> <td></td> </tr> <tr> <td>NMC:</td> <td></td> </tr> <tr> <td>NSIN:</td> <td>3163712588</td> </tr> <tr> <td>Slot Class:</td> <td>Slotted</td> </tr> <tr> <td>Slot Cycle Index:</td> <td>2</td> </tr> </tbody> </table>		Mobile Station Information		ESN (Hex):	0x6C32D3AE	ESN (Dec):	108-03330990	NCC:		NMC:		NSIN:	3163712588	Slot Class:	Slotted	Slot Cycle Index:	2	Cell Power	-86.00							
	Mobile Station Information																										
	ESN (Hex):	0x6C32D3AE																									
	ESN (Dec):	108-03330990																									
	NCC:																										
	NMC:																										
	NSIN:	3163712588																									
	Slot Class:	Slotted																									
	Slot Cycle Index:	2																									
			dBm/1.23 MHz																								
		Cell Band	US PCS																								
		Channel	1175																								
		Protocol Rev	6 (IS-2000)																								
		Radio Config	(Fud1, Rvs1)																								
		FCH Service Option Setup	S055 (Loopback)																								
Close Menu																											
<table border="1"> <thead> <tr> <th colspan="2">FCH Service Option Setup</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Service Option for Fud1, Rvs1</td> <td></td> <td>S055 (Loopback)</td> </tr> <tr> <td>Service Option for Fud2, Rvs2</td> <td></td> <td>S09 (Loopback)</td> </tr> <tr> <td>Service Option for Fud3, Rvs3</td> <td></td> <td>S032 (+ SCH)</td> </tr> <tr> <td>Service Option for Fud4, Rvs3</td> <td></td> <td>S055 (Loopback)</td> </tr> <tr> <td>Service Option for Fud5, Rvs4</td> <td></td> <td>S055 (Loopback)</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>		FCH Service Option Setup		Value	Service Option for Fud1, Rvs1		S055 (Loopback)	Service Option for Fud2, Rvs2		S09 (Loopback)	Service Option for Fud3, Rvs3		S032 (+ SCH)	Service Option for Fud4, Rvs3		S055 (Loopback)	Service Option for Fud5, Rvs4		S055 (Loopback)								
FCH Service Option Setup		Value																									
Service Option for Fud1, Rvs1		S055 (Loopback)																									
Service Option for Fud2, Rvs2		S09 (Loopback)																									
Service Option for Fud3, Rvs3		S032 (+ SCH)																									
Service Option for Fud4, Rvs3		S055 (Loopback)																									
Service Option for Fud5, Rvs4		S055 (Loopback)																									
<table border="1"> <tr> <td>Background</td> <td>Active Cell</td> <td>Sys Type: IS-2000</td> </tr> <tr> <td></td> <td>Idle</td> <td></td> </tr> <tr> <td></td> <td>IntRef</td> <td>Offset</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>		Background	Active Cell	Sys Type: IS-2000		Idle			IntRef	Offset																	
Background	Active Cell	Sys Type: IS-2000																									
	Idle																										
	IntRef	Offset																									
			1 of 3																								

Test Mode 1 in Radio Configuration 1 (FCH)



Call Setup Screen																						
Call Control	Active Cell Operating Mode	Call Parm																				
Operating Mode	<table border="1"> <thead> <tr> <th colspan="2">Mobile Station Information</th> </tr> </thead> <tbody> <tr> <td>ESN (Hex):</td> <td>0x6C32D3AE</td> </tr> <tr> <td>ESN (Dec):</td> <td>108-03330990</td> </tr> <tr> <td>NCC:</td> <td></td> </tr> <tr> <td>NMC:</td> <td></td> </tr> <tr> <td>NSIN:</td> <td>3163712588</td> </tr> <tr> <td>Slot Class:</td> <td>Slotted</td> </tr> <tr> <td>Slot Cycle Index:</td> <td>2</td> </tr> <tr> <td>Protocol Revision:</td> <td>6 (IS-2000_Rev0)</td> </tr> <tr> <td>Band Class:</td> <td>US Cell US PCS</td> </tr> </tbody> </table>	Mobile Station Information		ESN (Hex):	0x6C32D3AE	ESN (Dec):	108-03330990	NCC:		NMC:		NSIN:	3163712588	Slot Class:	Slotted	Slot Cycle Index:	2	Protocol Revision:	6 (IS-2000_Rev0)	Band Class:	US Cell US PCS	Cell Power
Mobile Station Information																						
ESN (Hex):		0x6C32D3AE																				
ESN (Dec):		108-03330990																				
NCC:																						
NMC:																						
NSIN:		3163712588																				
Slot Class:		Slotted																				
Slot Cycle Index:		2																				
Protocol Revision:		6 (IS-2000_Rev0)																				
Band Class:	US Cell US PCS																					
Active Cell		-86.00																				
System Type		dBm/1.23 MHz																				
IS-2000		Cell Band																				
		US PCS																				
End Call		Channel																				
		1175																				
Paging INSI Setup		Protocol Rev																				
		6 (IS-2000)																				
Handoff Setup		Radio Config																				
		(Fud3, Rvs3)																				
		S032 (+ SCH)																				
		FCH Service Option Setup																				
	Background	Active Cell																				
		Connected + Data																				
		Sys Type: IS-2000																				
1 of 2	IntRef	Offset																				
		1 of 3																				

Test Mode 3 in Radio Configuration 3 (Service Option32)

Call Setup Screen																																				
Call Control	Active Cell Operating Mode	Call Parm																																		
Operating Mode	<table border="1"> <thead> <tr> <th colspan="2">Access Terminal Information (AT Reported)</th> </tr> </thead> <tbody> <tr> <td>Session Seed:</td> <td>0x7722375A</td> </tr> <tr> <td>Hardware ID Type (Hex):</td> <td>0x010000 ESN</td> </tr> <tr> <td>Hardware ID (Hex):</td> <td>0x602D699F</td> </tr> <tr> <td>Hardware ID (Decimal):</td> <td>096-02976159</td> </tr> <tr> <th colspan="2">Access Terminal Information (AN Assigned)</th> </tr> <tr> <td>UATI 024:</td> <td>2</td> </tr> <tr> <td>UATI Color Code:</td> <td>64</td> </tr> <tr> <td>MAC Index:</td> <td>5</td> </tr> <tr> <th colspan="2">Access Terminal Information (User Entered)</th> </tr> <tr> <td>AT Max Power:</td> <td>23 dBm/1.23 MHz</td> </tr> <tr> <th colspan="2">Application Configuration</th> </tr> <tr> <td>Session Application Type:</td> <td>Test Application</td> </tr> <tr> <td>Test Application Protocol:</td> <td>RTAP</td> </tr> <tr> <td>Limited TAP:</td> <td>Off</td> </tr> <tr> <td>AT Directed Packets:</td> <td>50 %</td> </tr> <tr> <td>ACK Channel Bit Fixed Mode Attribute:</td> <td>On</td> </tr> </tbody> </table>	Access Terminal Information (AT Reported)		Session Seed:	0x7722375A	Hardware ID Type (Hex):	0x010000 ESN	Hardware ID (Hex):	0x602D699F	Hardware ID (Decimal):	096-02976159	Access Terminal Information (AN Assigned)		UATI 024:	2	UATI Color Code:	64	MAC Index:	5	Access Terminal Information (User Entered)		AT Max Power:	23 dBm/1.23 MHz	Application Configuration		Session Application Type:	Test Application	Test Application Protocol:	RTAP	Limited TAP:	Off	AT Directed Packets:	50 %	ACK Channel Bit Fixed Mode Attribute:	On	Cell Power
Access Terminal Information (AT Reported)																																				
Session Seed:		0x7722375A																																		
Hardware ID Type (Hex):		0x010000 ESN																																		
Hardware ID (Hex):		0x602D699F																																		
Hardware ID (Decimal):		096-02976159																																		
Access Terminal Information (AN Assigned)																																				
UATI 024:		2																																		
UATI Color Code:		64																																		
MAC Index:		5																																		
Access Terminal Information (User Entered)																																				
AT Max Power:	23 dBm/1.23 MHz																																			
Application Configuration																																				
Session Application Type:	Test Application																																			
Test Application Protocol:	RTAP																																			
Limited TAP:	Off																																			
AT Directed Packets:	50 %																																			
ACK Channel Bit Fixed Mode Attribute:	On																																			
Active Cell		-60.00																																		
		dBm/1.23 MHz																																		
		Cell Band																																		
		US PCS																																		
Start Data Connection		Channel																																		
		675																																		
Close Session		Application Config																																		
Handoff Setup		FTAP Rate																																		
		307.2 kbps																																		
AT Max Power		(2 Slot, QPSK)																																		
23 dBm/1.23 MHz		RTAP Rate																																		
		153.6 kbps																																		
	Background	Active Cell																																		
		Session Open																																		
		Sys Type: IS-856																																		
		Logging: No Conn.																																		
1 of 3	IntRef	Offset																																		
		RTAP																																		
		1 of 3																																		

1xEV-DO setting with RTAP 153.6kbps

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