

LTE Test Setup CMW500

Contents

Configuring CMW500	1
Connect DUT to CMW500	4

Configuring CMW500

Firstly, need to set up CMW500 as a signal generator. For LTE-M1, from the main screen tick the checkbox for LTE Signaling 1.

🚸 Generator/Signaling Controller	
General Purpose RF Generator 1 Generator 2 Generator 3 Generator 4	Taskbar entry State
∼LTE Signaling 1 Signaling 2	Run
Signaling 3 Signaling 4 NB-loT	Coff Off
-Signaling 1 -Signaling 2 -Signaling 3	Off Off Off
·Signaling 4	On

This will then open the Signal Controller window, and the next step is to configure it for LTE callbox testing via Config button.





The main settings are as follows



Once these 3 parameters are changed, can close config and start Signaling (right click on LTE Signaling > Run). Once Signaling is on, change eMTC Auto Mode to RMC. In the upper right corner of the window, it should show "Cell On" and "Idle" for RRC State.



Connection Status			PCC ISCON ISC	CZ SCC3 SCC	6 (5005 (500	SCC7			
Cell Cell On Packet Switched Cell On RRC State Idle			Operating Band Band 1			FDD		LTE 1 TX Meas.	
			Channel	Downlink		Uplink			
				300 Ch 2140.0 MHz		18300 Ch 1950.0 MHz		LTE 1 RX Meas.	
			Frequency						
			Cell Bandwidth	10.0 MHz	•	10.0 MHz			
			RS EPRE	RE -85.0 dBm/15k		kHz		Go to	
Event Log		×	Full Cell BW Pov	ж. —57.2	dBm				
10:09:10 State 'Cell On', 1CC 1x1 10:08:50 Signaling Unit Startup			PUSCH Open Loop Nom Power PUSCH Closed Loop Target Power			-20	mBb (
						~20.0	~20.0 dBm Routi		
			Sched eMTC A	uto Mode	• 2	a Duplex			
			Sched eMTC A	uto Mode	• P)	ial Duplex			
UE Info		8	Sched. eMTC A	uto Mode C. Channels	• 91	al Duplex			
UE Info		8	Sched. eMTC A BMC Over de User de CQLPM	uto Mode 6. Channels 6. TTI 1.RI	• 9)	lat Duplex			
UE Info INED		8	Sched eMTC A SMC User de CQLPM SPS (Th eMTC A	uto Mode E. Channels E. TTI I-RI I1.2) uto Mode	- P I	ta Duplex	- F		
UE Info IMEI IMSI Voice Domain Pr.,		8	Sched. eMTC A State User de Coli-PM SPS (TL eMTC A eMTC A	uto Mode E. Channels E. TTI I.RI I.1,2) uto Mode compact Schedu	• 57) Jplin	tar Duptex k Mu <u>tichus</u> 6 •	- E		
UE Info IMEI IMSI Voice Domain Pr UE's Usage Sett		8	Sched. eMTC A State de User de CGL-PM SPS (TI eMTC A eMTC C Statt RB	uto Mode C. Channels (, TTI (RI (1,2) uto Mode ompact Schedu	• F) Jpin	k Meticlust	w E		
UE Info INED INES Voice Domain Pr., UE's Usage Sett Default Bearer IPv4 a	• ddress IPv6 p	eefix	Sched. eMTC A StAC Over de User de User de CGI-PM SPS (TI eMTC A eMTC C Start RB Namow Band	uto Mode E. Channels (, TTI IRI I1,2) uto Mode ompact Schedi 0 0	• 5 1 Jpin	k Muticiust	w F		
UE Info IMEI IMEI Voice Demain Pr., UE's Usage Sett Default Bearer IPv4 a Dedicated Bearer TFT Por	ddress IPv6 p	eefx	Sched. eMTC A StAC Over de User de COLPM SPS (TI # RB eMTC C Start RB Namow Band Modulation	uto Mode C. Channels (, TTI IRI I1,2) uto Mode compact Schedu 0 0 QPSK •	• 5 I	k Muticiaat 6 • 0 QPSK •	w F	LTE	
UE Info INEI INSI UE's Usage Setil Default Bearer Default Bearer TFT Por	ddress IPv6 pr 1 Range DL / UL	eefix	Sched. eMTC A StAC User de User de COLPM SPS (TI # RB eMTC A eMTC C Start RB Narrow Band Modulation TBS Mx / Value	uto Mode L. Channels L. TTI LRI I1,2) uto Mode ompact Schedu 0 QPSK • 6	• 57 y	k Mutichad 6 • 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	630	LIE Signaling	
UE Info INED INSI UE's Usage Sett. Default Bearer IPv4 a Dedicated Bearer TFT Por 	ddress IPv6 pr 1 Range DL / UL	refix	Sched. eMTC A State de Col. PM SPS (TI eMTC A eMTC C Statt RB Narrow Band Modulation TBS Idx / Value Throughput	uto Mode E. Channels (, TTI LRI I1.2) uto Mode ompact Schedu 0 0 QPSK • 6 	• D) uling	k Mutichus 6 • 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	600	LTE Signaling Run	

Now the CMW 500 is ready for the DUT to attach to the cell.



Connect DUT to CMW500

Once the device is set to the correct communication protocol, then can get the device to tether to the CMW 500 by using the "AT+CFUN=1" command. (To disconnect, use "AT+CFUN=4".)

When the "AT+CFUN=1" command is sent, if the CMW500 signaling is active, then the CMW500 should show the Packet Switch as "Attached" and the RRC State as "Connected" on the instrument (see below).

CMW 500 V 3.7.130 - LTE Signaling 1 - X3.7.70.10							
Connection Status	Connection Status CC SCC1 SCC2 SCC3 SCC4 SCC5 SCC6 SCC7						
Cell 🥢	Dperating Band	Band 1	•	FDD	/	LTE 1	
Packet Swit		Downlink		Uplink		TX Meas.	
RRC State Connected	Channel	300 Ch		18300	Ch	LTE 1	
	Frequency	2140.0 MH	z	1950.0	MHz	RX Meas.	
	Cell Bandwidth	10.0 MHz	•	10.0 MHz	×	Data 1	
	RS EPRE	–85.0 dBr	m/15kHz			Meas	
Event Log ×	Full Cell BW Pow	-57.2 dBr	m				
15:23:48 State 'Attached'	PUSCH Open Loo	op Nom.Power		-20	dBm	Routing	
15:23:48 EPS Default Bearer Establish	PUSCH Closed Lo	oop Target Power		-20.0	dBm	, , , , , , , , , , , , , , , , , , ,	
15:23:48 Configured CE Mode:			Īeru				
15:23:48 CE Mode A	Sched. RMC	· · · · · ·	Half	Duplex			
	SF Pattern S	tandard 💌					
UE Info							
IMEI 351359910331205		Downlink	Uplink	Multicluster			
IMSI 001010123456063	#RB	4 🕶			6 🕶		
Voice Domain	RB Pos./Start RB	low 0		low 💌	0	LTE	
Default Bearer IPv4 address IPv6 p	NB Position	3GPP 🔻		li	w 🕶	Signaling	
¹ 5 (cmw50 172.22.1.100 fc01:abab:c	Modulation	QPSK	J	QP	SK 📝	KUN	
	TBS Idx / Value	5 328		6	600		
	Throughput	0.098 Mbit/s		0.180 M	bit/s		
Detach Connect			Send S	MS Inter/I RAT	ntra-	Config	