

Device	Type/Model	Serial Number	Manufacturer	Calibration Certificate
SAR E-Field Probe	SSE2	27/13 EP184	SATIMO	E
SAR E-Field Probe	SSE2	17/14 EP224	SATIMO	K
IEEE REF Dipole 750 MHz	SID750	14/13 DIP 0G750- 229	SATIMO	K
IEEE REF Dipole 835 MHz	SID835	47/12 DIP 0G835- 210	SATIMO	K
IEEE REF Dipole 1800 MHz	SID1800	47/12 DIP 1G800- 212	SATIMO	e
IEEE REF Dipole 1900 MHz	SID2450	47/12 DIP 1G900- 213	SATIMO	K
Dosimetric E-field Probe	EX3DV4	3978	SPEAG	¢=
2450MHz System Validation Dipole	D2450V2	937	SPEAG	K
5GHz System Validation Dipole	D5GHzv2	1164	SPEAG	K





Annex E. LTE CA setup description

As per FCC OET KDB 941225 D05A – Rel. 10 LTE SAR Test Guidance and KDB Inquiries, when carrier aggregation is limited to downlink only; i.e., there is no uplink carrier aggregation, uplink maximum output power (single carrier) is measured for the supported combinations of downlink carrier aggregation according to the frequency bands and channel bandwidths allowed for the uplink and downlink configuration combinations.

Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than 1/4 dB higher than the maximum output power measured when downlink carrier aggregation inactive.

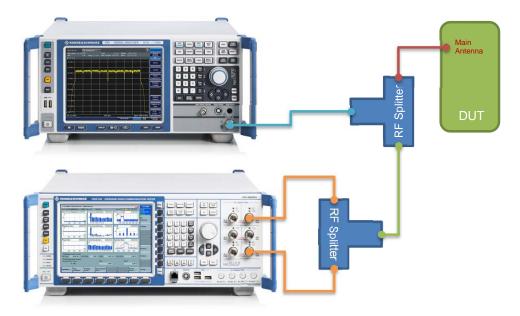
If the DUT meets this 1/4 dB limit, no SAR evaluation is required for Carrier Aggregation modes.

This Annex describes the setup used and provides spectrum screenshot samples for each CA band combination.

Image: Constraint of the second of the se

E.1 LTE CA Conducted Power Measurement Setup

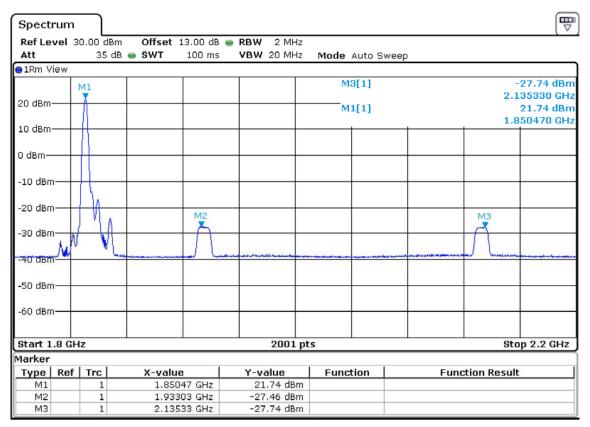
E.2 LTE CA Spectrum Measurement Setup



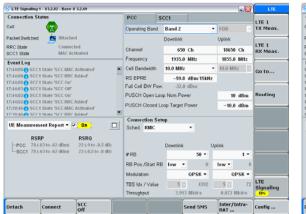


E.3 Sample Spectrums and CMW500 Configuration

E.3.1 CA_2A_4A



Primary Component Carrier Configuration







E.3.2 CA_2A_5A

Spectru	m																	₩
Ref Leve	il 30	0.00 dB	m	Offset	13.00 dB		RBW	2 MH	z									<u> </u>
Att		35 c	B 😑	SWT	100 ms		VBW	20 MH:	z NV	lode	Auto S	Sweep						
⊖1Rm Viev	N																	
										М	3[1]					M1 ¥8 8	·27.60 33.660	I dBm) MHz
20 dBm—	\top									M	1[1]						21.39 5047	dBm
10 dBm—	+		+													-	1	
0 dBm	+		+													+		
-10 dBm—	-		+															
-20 dBm-	+		+											_		1	M	2
-30 dBm	+					_								_				
-40 dBm-			-	والمحد مريز طاعقيتكمه					, 4-1-4					-		11		
-50 dBm—																		
-60 dBm—	+		+			_		-						_				
															2			
Start 800	1.0	MHz						2001	pts							Sto	op 2.0	GHz
Marker		- 1										1						
Type R M1	ef	Trc 1		X-valu			Y-V	alue 39 dBr	_	Func	tion	_	F	unc	tion Re	esult		
M1 M2	_	1			047 GHz 303 GHz			.39 dBr				-						
M3		1			.66 MHz			.60 dBr										

Primary Component Carrier Configuration

Secondary Component Carrier Configuration

S LTE Signaling 1 - V3.2.82 - Base V 3.2.69				- 🛙	LTE	Strate Signaling	I - V3.2.82 - Base V	3.2.60				
Connection Status		PCC	SCC1		LTE 1	Connection St	atus		PCC	iCC1		
Cell 🙀		Operating Band	Band 2	FDD 💌	TX Meas.	Cell			Operating Band	Band 5		•
Packet Switched Attached			Downlink	Uplink	<u> </u>	Packet Switched	Attache	đ		Downlink		
RRC State Connected SCC1 State MAC Activated		Channel	650 Ch	18650 Ch	LTE 1 RX Meas.	RRC State	Connect MAC Act		Channel	252	5 Ch	
SCC1 State MAC Activated Event Log		Frequency	1935.0 MHz	1855.0 MHz		SCC1 State	MAC AC	Iwared	Frequency	881.5	5 MHz	
17:39:46 SCC1 State 'SCC MAC Activated'		Cell Bandwidth	10.0 MHz	• 10.0 MHz	Go to		I State 'SCC MAC	Activated"	Cell Bandwidth	10.0 MHz		•
17:39:46 SCC1 State 'SCC RRC Added' 17:39:45 SCC1 State 'SCC On'		RS EPRE	-59.8 dBm/15kHz			17:39:46 SCC	State SCC RRC	Added"	RS EPRE	-59.8	8 dBm/15kH	2
17:39:41 SCC1 State 'SCC Off'		Full Cell BW Por	w32.0 dBm		· · · ·	17:39:41 SCC			Full Cell BW Pov	r 32.)	0 dBm	
17:39:40 🕤 SCC1 State 'SCC On'		PUSCH Open Lo	oop Nom.Power	10 dBm	Routing	17:39:40 🕤 SCC			SCC1 <-> PCC	Swap		
17:38:40 SCC1 State 'SCC RRC Added' 17:38:40 SCC1 State 'SCC MAC Activated'		PUSCH Closed I	Loop Target Power	-10.0 dBm			I State "SCC RRC / I State "SCC MAC		Connection Se	-		
17-38-40 A SCC1 State 'SCC RRC Added'		Connection Se				17:30:40 A SOC	ESTATA SCC RRC	added"	Sched. RMC	oup ,		
UE Measurement Report • 🔽 On		Sched RMC	roup +			UE Measurem	ent Report 🔹 🔽	On 🗆	Dented. Howe			
RSRP RSR0						RSF	HP	RSRO	PCC -> SCC1	Сору		
-PCC 79 (-62 to -61 dBm) 24 (-8 to -5			Downlink I	Uplink		-PCC 79 (-	62 to -61 dBm)	21 (-9.5 to -9 dB)		Downlink		
LSCC1 85 (-56 to -55 dBm) 26 (-7 to -1	6.5 dB)	#RB	50 -	1 -	<u> </u>	-SCC1 85 (-	56 to -55 dBm)	23 (-8.5 to -8 dB)	# RB		50 -	
		RB Pos./Start R	B low • 0	low • 0					RB Pos./Start R	B low 💌	0	
		Modulation	OPSK •	OPSK -					Modulation		OPSK 🕶	
		TBS Idx / Value	5 4392	5 72	LTE Signaling				TBS Idx / Value	5	4392	
		Throughput	3.953 Mbit/s	0.072 Mbit's	0N				Throughput	3.953 B	dbit/s	
Detach Connect SCC Off			Send SMS	Inter/Intra- RAT	Config	Detach	Connect	SCC		Se	nd SMS	Int

LTE 1 TX Meas. Co to... Routing

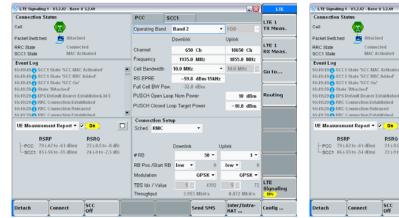
LTE

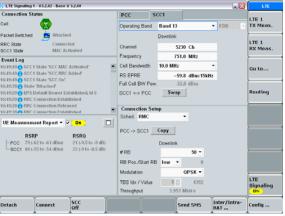


E.3.3 CA_2A_13A

Spectru	n											₩
Ref Leve	30.00 d	lBm	Offset	13.00 dB	e RBW	/ 2 MHz						
Att		dB 😑	SWT	100 ms	VBW	/ 20 MHz	Mode	Auto S	weep			
⊖1Rm View												
							М	3[1]			Mi	-27.18 dBm 52.950 MHz
20 dBm—							м	1[1]				20.65 dBm
10 dBm											1.0	350900 GHz
0 dBm					_							
-10 dBm—					_							
-20 dBm—					_							M2
-30 dBm—												
-40 dBm			and and a second se									
-50 dBm—												
-60 dBm—							í			2		
Start 700	.0 MHz					2001 p	ts				St	op 2.0 GHz
Marker												
	ef Trc		X-valu			value	Func	tion		Func	tion Resul	t
M1 M2	1			509 GHz 341 GHz		0.65 dBm 7.42 dBm						
M2 M3	1			95 MHz		7.18 dBm						

Primary Component Carrier Configuration







E.3.4 CA_2A_17A

Spectru	m																₩
Ref Leve	i 30).00 dBm		Offset	13.00 dB	RBW	2 MH	z									<u> </u>
Att		35 dB	•	SWT	100 ms	VBW	20 MH	z	Mode	Auto s	Sweep						
●1Rm Vie	N																
	Τ								M	3[1]		 		М	ī ²	7.45	dBm
20 dBm—	+		\vdash			 			M	1[1]							dBm
10 dBm—										-1-1				1) GHz
0 dBm—	+		\vdash			 									\parallel		
-10 dBm-	\perp														Ц		
-20 dBm-															l	М	2
-30 dBm-	+		+			 							-		+		1
	_													M			
-40 dBm-																	
-50 dBm-	+		-		6	 			8				-		+		-
60 dBm																	
-60 dBm-																	
Start 70).O N	/IHz				1	2001	pts					-	St	top	0 2.0	GHz
Marker																	
Type F	ef	Trc		X-valu			alue		Func	tion		Fun	ction	Resu	lt		
M1		1			509 GHz		L.54 dBi										
M2	_	1			341 GHz		7.45 dBi										
M3		1		742	.55 MHz	-27	7.45 dBi	m				 					

Primary Component Carrier Configuration

Secondary Component Carrier Configuration

S LTE Signaling 1 - V3.2.82 - Base V 3.2.60			- 🔀	LTE	😽 LTE Signaling 1 - V3.2.82 - B	ase V 3.2.60		
Connection Status	PCC S	CC1		LTE 1	Connection Status		PCC	iCC1
Cell 🙀	Operating Band	Band 2 🔹	FDD 💌	TX Meas.	Cell 🙀		Operating Band	Band 17
Packet Switched Attached		Downlink	Uplink		Packet Switched 📩 All	ached		Downlink
RRC State Connected SCC1 State MAC Activated	Channel	650 Ch	18650 Ch	LTE 1 RX Meas.		nnected IC Activated	Channel	5790 Ch
Event Log	Frequency	1935.0 MHz	1855.0 MHz		Event Log	C MCMMared	Frequency	740.0 MHz
16:53:39 3 SCC1 State 'SCC MAC Activated'	Cell Bandwidth	10.0 MHz -	10.0 MHz	Go to	16:53:39 3 SCC1 State 'SCC		Cell Bandwidth	10.0 MHz
16:53:39 SCC1 State 'SCC RRC Added' 16:53:39 SCC1 State 'SCC On'	RS EPRE	-59.8 dBm/15kHz			16:53:39 SCC1 State 'SCC 16:53:39 SCC1 State 'SCC		RS EPRE	-59.8 dBm/15kb
16:53:04 0 SCC1 State 'SCC Off'	Full Cell BW Pow				16:53:04 👩 SCC1 State 'SCC	Off.	Full Cell BW Pow	
16:53:04 SCC1 State 'SCC On' 16:53:04 SCC1 State 'SCC RRC Added'	PUSCH Open Loc		10 dBm	Routing	16:53:04 SCC1 State 'SCC 16:53:04 SCC1 State 'SCC		SCC1 <-> PCC	Swap
16:49:49 1 SCC1 State "SCC MAC Activated"	PUSCH Closed Li	oop Target Power	-10.0 dBm		16:49:49 🕤 SCC1 State 'SCC	MAC Activated	Connection Set	hun
18-19-19 SCC1 State 'SCC RRC Added'	Connection Set	up.			18-19-19 A SCC1 State 'SCC	RRC Added"	Sched. RMC	- -
UE Measurement Report • 🔽 On	Sched. RMC	*		<u> </u>	UE Measurement Report	• • On 🗌		
RSRP RSRQ					RSRP	RSRQ	PCC -> SCC1	Copy
PCC 79 (-62 to -61 dBm) 22 (-9 to -8.5 dB) -8001 86 (-55 to -54 dBm) 24 (-8 to -7.5 dB)		Downlink Ug	plink		PCC 79 (-62 to -61 dB) SCC1 86 (-55 to -54 dB)			Downlink
SCC1 86 (-55 to -54 dBm) 24 (-8 to -7.5 dB)	# RB	50 -	1 -		-SCC1 80 (-55 t0 -54 dB	III) 21 (-3.5 to -9 dB)	#R8	50 -
	RB Pos./Start RE	B low • 0	low 💌 0				RB Pos./Start RB	B low 💌 0
	Modulation	OPSK •	OPSK •				Modulation	OPSK -
	TBS Idx / Value	5 4392	5 72	Signaling			TBS Idx / Value	5 4392
	Throughput	3.953 Mbit/s	0.072 Mbit/s	0N			Throughput	3.953 Mbit/s
Detach Connect SCC Off	Ì	Send SMS	Inter/Intra- RAT	Config	Detach Connect	SCC		Send SMS

LTE 1 TX Meas.

> LTE 1 RX Meas. Go to... Routing

> > LTE

Inter/Intra RAT ...

FDD



E.3.5 CA_2A_29A

Spect	rum						
Ref Le	vel 3	0.00 dBm	n Offset 13.00 d	3 👄 RBW 2 MHz			· · · · · · · · · · · · · · · · · · ·
Att		35 dE	3 👄 SWT 👘 100 m	s VBW 20 MHz	Mode Auto St	weep	
∣o1Rm V	/iew						
					M3[1]		MI ⁻ 26.61 dBm ▼21.760 MHz
20 dBm					M1[1]		21.26 dBm
							11850900 GHz
10 dBm							
0 dBm-							
-10 dBn	n——						
_20 dBn	n—+						M2
-O dBn							X
-90 dBn	n						
							M Kennel Lamon
-40 dBn	n						
-50 dBn	n						
-60 dBn	n						
Start 7	00.0	MHz		2001 pt	ts		Stop 2.0 GHz
Marker							
Type	Ref	Trc	X-value	Y-value	Function	Fu	inction Result
M1		1	1.8509 GHz	21.26 dBm			
M2		1	1.93341 GHz	-27.70 dBm			
MЗ		1	721.76 MHz	-26.61 dBm			

Primary Component Carrier Configuration





E.3.6 CA_4A_4A

Spectrur	n								
Ref Level	30.00 de	m Offset	13.00 dB	RBW 2 MHz					`
Att	35 (dB 👄 SWT	100 ms	VBW 20 MHz	Mode 4	Auto Sweep			
●1Rm View									
	1	M1			МЗ	[1]			27.30 dBm 47680 GHz
20 dBm					M1	[1]			22.25 dBm
10 dBm		\mathbb{H}						1.7	10490 GHz
0 dBm									
-10 dBm—		11							
-20 dBm—								M2	мэ
-30 dBm—		- M						Â	ń –
40 dBm	N	1				//. 8/.11		لسبا استن	Los martines
-50 dBm—			-						
-60 dBm—			-						
Start 1.6 (GHz			2001 p	ts			Sto	p 2.2 GHz
Marker						1.217			
Type Re	f Trc	X-valı		Y-value	Funct	ion	Func	tion Result	
M1	1		049 GHz	22.25 dBm					
M2	1		529 GHz	-26.94 dBm					
M3	1	2.14	768 GHz	-27.30 dBm					

Primary Component Carrier Configuration

😽 LTE Signal	ing 1 - V3.2.82 - Base V 3.2.69			- 🛛	LTE	Sy LTE Signaling 1	- V3.2.82 - Base V	7 3.2.69			- 🔀	
Connection	Status	PCC	SCC1		LTE 1	Connection Sta	atus		PCC S	CC1		LTE
Cell		Operating Band	Band 4	💌 FDD 📃	TX Meas.	Cell			Operating Band	Band 4	• FDD 🗸	TX M
Packet Switc	hed 🔁 Attached		Downlink	Uplink		Packet Switched	📩 Attache	d		Downlink		
RRC State SCC1 State	Connected MAC Activated	Channel	2000 Ch	20000 Ch	LTE 1 RX Meas.	RRC State SCC1 State	Connect MAC Act		Channel	2300 Ch		LTE RX N
Event Log	mile Activity	Frequency	2115.0 MHz	1715.0 MHz		Event Log	max av	uruicu	Frequency	2145.0 MHz		
17:31:27 6 9	CC1 State 'SCC MAC Activated'	Cell Bandwidth	10.0 MHz	▼ 10.0 MHz 🔄	Go to	17:31:27 6 SCC1			 Cell Bandwidth 	10.0 MHz	-	Got
	CC1 State 'SCC RRC Added' CC1 State 'SCC On'	RS EPRE	-59.8 dBm			17:31:27 SCC1 17:31:27 SCC1		Added"	RS EPRE	-59.8 dBm/151	Hz	
	ledirection Successful	Full Cell BW Pov				17:31:22 () Redir	ection Successfu		Full Cell BW Pow			
	racking Area Update Received IRC Connection Established	PUSCH Open Lo	oop Nom.Power	10 dBm	Routing	17:31:21 Track			SCC1 <-> PCC	Swap		Rout
17:31:21 1	IRC Connection Released	PUSCH Closed L	Loop Target Power	-10.0 dBm	<u> </u>	17:31:21 (RRC (Connection Relea		 Connection Set 			
17:31:20 61	tedirection Start	Connection Se	stuo			17:31:20 Redir	ection Start		Sched. RMC	•		
UE Measu	rement Report 👻 🔽 🔲	Sched. RMC			L	UE Measureme	ent Report 🝷 🔽	On 🗌				
	RSRP RSRQ					RSR	P	RSRO	PCC -> SCC1	Сору		
	83 (-58 to -57 dBm) 20 (-10 to -9.5 dB)		Downlink	Uplink			58 to -57 dBm)	19 (-10.5 to -10 dB)		Downlink		
-SCC1	37 (-104 to -103 dBm) 0 (< -19.5 dB)	# R8	:	50 - 1 -		-SCC1 37 (-1	104 to -103 dBm)	0 (< -19.5 dB)	# R8	50 -		
		RB Pos./Start R	B low •	0 low = 0					RB Pos./Start RB	low • 0		
		Modulation	OPS	SK • OPSK •					Modulation	QPSK -		
		TBS Idx / Value	5	4392 5 72	LTE Signaling				TBS Idx / Value	5 4392		LTE Sign
		Throughput	3.953 Mbit	tis 0.072 Mbitis	ON				Throughput	3.953 Mbit/s		0N
Detach	Connect SCC Off		Send 1	SMS Inter/Intra- RAT	Config	Detach	Connect	scc off		Send SMS	Inter/Intra- RAT	Confi
Decuca	off		Selle	RAT	coming	Detter	connect	Off		Sene Sins	RAT	



E.3.7 CA_4A_5A

Spectrun	n										₩
Ref Level	30.00 dBi	m Offset	13.00 dB (RBW 21	ИHz						,
Att	35 d	B 👄 SWT	100 ms	VBW 20 M	ИHz	Mode	Auto S	Gweep			
●1Rm View											
						M	3[1] _M	1			27.65 dBm 9.410 MHz
20 dBm					+	M	1[1]				21.13 dBm
10 dBm											10490 GHz
10 ubiii											
0 dBm					+						
-10 dBm—					+						
-20 dBm—					+						
M3											M2 X
-30 dBm						,					
-40 dBm							للمعيد	<u> </u>			
-50 dBm—					+	2					
-60 dBm				_	+	2					
Start 800.	0 MHz			200	01 pts	5				Sto	p 2.2 GHz
Marker	f Tun I	V	- 1	V	- 1	E.u.		1	F -1000	tion Result	
Type Re M1	1	X-valu 1 71	049 GHz	<u>Y-value</u> 21.13 (IBm	Func	tion		Func	cion Result	
M2	1		529 GHz	-27.39 (
M3	1	879	.41 MHz	-27.65 (dBm						

Primary Component Carrier Configuration

S LTE Signaling 1 - V3.2.82 - Base V 3.2.69		- 🔀	LTE	S LTE Signaling 1 - V3.2.82 - Base V 3.2.69		LTC
Connection Status	PCC SCC1		LTE 1	Connection Status	PCC SCC1	LTE 1
Cell ญ	Operating Band Band 4	💌 FDD 🖂	TX Meas.	Cell 🙀	Operating Band Band 5 FDD	TX Meas
Packet Switched 🔁 Attached	Downlink	Uplink		Packet Switched Attached	Downlink	
RRC State Connected SCC1 State MAC Activated	Channel 2000 Ch	20000 Ch	LTE 1 RX Meas.	RRC State Connected SCC1 State MAC Activated	Channel 2525 Ch	LTE 1 RX Meas
Event Log	Frequency 2115.0 MH	z 1715.0 MHz			Frequency 881.5 MHz	
17:08:46 SCC1 State 'SCC MAC Activated'	Cell Bandwidth 10.0 MHz	• 10.0 MHz 2	Go to		Cell Bandwidth 10.0 MHz -	Go to
17:00:46 0 SCC1 State 'SCC RRC Added' 17:00:46 0 SCC1 State 'SCC On'	RS EPRE -59.8 dBr	n/15kHz	001011	17:00:46 SCC1 State 'SCC RRC Added' 17:00:46 SCC1 State 'SCC On'	RS EPRE -59.8 dBm/15kHz	
17:00:09 1 SCC1 State 'SCC Off'	Full Cell BW Pow32.0 dBm	n		17:00:09 1 SCC1 State 'SCC Off'	Full Cell BW Pow32.0 dBm	
17:08:09 CC1 State 'SCC On' 17:08:09 SCC1 State 'SCC RRC Added'	PUSCH Open Loop Nom. Power	10 dBm	Routing	17:08:09 CC1 State 'SCC On' 17:08:09 SCC1 State 'SCC RRC Added'	SCC1 <> PCC Swap	Routing
17:04:50 SCC1 State SCC MAC Activated	PUSCH Closed Loop Target Powe	r -10.0 dBm		17:04:50 SCC1 State 'SCC MAC Activated'	Annual and a start	
17:04:50 A SCC1 State SCC RRC Added	Connection Setup			17-04-50 A SEC 1 State "SEC RRC Added"	Connection Setup Sched, RMC	
UE Measurement Report 👻 On 📃	Sched. RMC *			UE Measurement Report 👻 🔽 🔲	Sched. Nunc	
RSRP RSR0	ounea. Parts			RSRP RSR0	PCC -> SCC1 Copy	
PCC 78 (-63 to -62 dBm) 23 (-8.5 to -8 dB)	Downlink	Uplink		PCC 78 (-63 to -62 dBm) 22 (-9 to -8.5 dB)	Dawnlink	
SCC1 85 (-56 to -55 dBm) 23 (-8.5 to -8 dB)	# R8	50 - 1 -		SCC1 85 (-56 to -55 dBm) 23 (-8.5 to -8 dB)	#RB 50 -	
	RB Pos./Start RB low •	0 low = 0			RB Pos./Start RB low • 0	
	Modulation OP	SK • OPSK •			Modulation QPSK -	
	TBS ldx / Value 5	4392 5 72	LTE Signaling		TBS ldx / Value 5 4392	LTE Signaline
	Throughput 3.953 Mb	itis 0.072 Mbitis			Throughput 3.953 Mbit's	
Detach Connect SCC Off	Send	SMS	Config	Detach Connect Off	Send SMS Inter/Intra- RAT	Config



E.3.8 CA_4A_13A

Spectrun	n										₽
Ref Level	30.00 dBr	n Offset	13.00 dB (RBW 2	MHz						
Att	35 di	B 👄 SWT	100 ms	VBW 20	MHz	Mode	Auto S	weep			
●1Rm View											
20 dBm								M1		75	27.40 dBm 2.100 MHz
20 ubiii						M	1[1]				21.96 dBm
10 dBm					+					1.7	10500 GHz
0 dBm					+						
-10 dBm—					+						
-20 dBm				_	+						M2
-30 dBm			-		+						-1
	a							d'Upon			الم
-50 dBm—			-	_	_						
-60 dBm—			_	_	_						
Start 700.	UMHZ			20	01 pts	5				Sto	p 2.2 GHz
Marker	f Trc	X-valu	- I	Y-value		Func	tion	r	Euro-t	ion Result	1
Type Re	1		105 GHz	21.96		Func	cion		Funct	ion Result	
M2	1		153 GHz	-27.30							
МЗ	1		2.1 MHz	-27.40	and the second se						

Primary Component Carrier Configuration

S LTE Signaling 1 - V3.2.82 - Base V 3.2.69			- 🛛	LTE	LTE Signaling 1 - V3.2.82 - Base V 3.2.69									
Connection Status	PCC	SCC1		LTE 1	Connection Status	PCC	SCC1		LTE 1					
Cell 🙀	Operating Band	Band 4	• FDD 🖂	TX Meas.	Cell 🙀	Operating Band	Band 13 •	FDD 🗵	TX Mea					
PacketSwitched Attached		Downlink	Uplink		Packet Switched 🔁 Attached		Downlink							
RRC State Connected SCC1 State MAC Activated	Channel	2000 Ch	20000 Ch	LTE 1 RX Meas.	RRC State Connected SCC1 State MAC Activated	Channel	5230 Ch		LTE 1 RX Mea					
Event Log	Frequency	2115.0 MHz	1715.0 MHz		EventLog	Frequency	751.0 MHz		<u> </u>					
17:13:03 SCC1 State 'SCC MAC Activated'	Cell Bandwidth	10.0 MHz	• 10.0 MHz	Go to		Cell Bandwidth	10.0 MHz -		Go to					
17:13:03 CC1 State 'SCC RRC Added' 17:13:03 SCC1 State 'SCC On'	RS EPRE	-59.8 dBm/15kHz			17:13:03 () SCC1 State 'SCC RRC Added' 17:13:03 () SCC1 State 'SCC On'	RS EPRE	-59.8 dBm/15kHz							
17:12:43 SCC1 State 'SCC Off'	Full Cell BW Po	w32.0 dBm			17:12:43 SCC1 State SCC Off	Full Cell BW Po	w32.0 dBm							
17:12:43 () SCC1 State 'SCC On'	PUSCH Open Li	oop Nom.Power	10 dBm	Routing	17:12:43 🔿 SCC1 State 'SCC On'	SCC1 <-> PCC	Swap		Routing					
17:12:43 SCC1 State 'SCC RRC Added' 17:02:46 SCC1 State 'SCC MAC Activated' PUSCH Closed Loop Target Power -10.0					17:12:43 CC T State 'SCC RRC Added' 17:01:46 SCC 1 State 'SCC MC Activated'									
17:02:46 SCC1 State SCC RRC Added					1748-46 SCC1 State SCC RRC Added Connection Setup									
UE Measurement Report 👻 🖸 🗖 🗖	Connection Se Sched. RMC	etup -			UE Measurement Report - 🔽 On	Sched. RMC	•							
	Sched. PORC	<u>.</u>				PCC -> SCC1	Сору							
RSRP RSR0 PCC 78 (-63 to -62 dBm) 22 (-9 to -8.5 dB)		Downlink U	Jolink		RSRP RSRQ PCC 78 (-63 to -62 dBm) 22 (-9 to -8.5 dB)		Downlink							
SCC1 86 (-55 to -54 dBm) 25 (-7.5 to -7 dB)	#88	50 -	1 -	<u> </u>	SCC1 86 (-55 to -54 dBm) 23 (-8.5 to -8 dB)	# R8	50 -							
	RB Pos./Start R	B low • 0	low • 0			RB Pos./Start R	B low • 0							
	Modulation	OPSK •	OPSK •			Modulation	OPSK -							
	TBS Idx / Value		5 72	LTE		TBS Idx / Value	5 4392		LTE					
	Throughput	3.953 Mbit/s	0.072 Mbit's	Signaling		Throughput	3.953 Mbit/s		Signalin					
The Terry T		Y	Y		Y You Y		X		<u> </u>					
Detach Connect Off		Send SMS	Inter/Intra- RAT	Config	Detach Connect SCC Off			nter/Intra-	Config					
		A	*	* · · · · ·			A A							



E.3.9 CA_4A_17A

Spectrur	n													
Ref Level	30.00 d	lBm	Offset	13.00 dB	RBW	2 MHz								
Att	35	dB 😑	SWT	100 ms	VBW	20 MHz	Mode	Auto S ¹	weep					
●1Rm View														
20 dBm									м1 Т		74	27.34 dBm 1.600 MHz		
							IVI	1[1]		20.98 dBr 1.710500 GH				
10 dBm											1.7	10300 GHz		
0 dBm														
-10 dBm—														
-20 dBm												M2		
-30 dBm—							þ							
-40 aBm-	,		*****						d'ila	and the last second spectrum		line		
-50 dBm—												5		
-60 dBm		-			_		-					6		
Start 700.	0 MHz					2001 pt	ts				Sto	p 2.2 GHz		
Marker				22										
Type Re			X-valu			alue	Function			Fund	tion Result			
M1	1			105 GHz).98 dBm								
M2	1			153 GHz		7.30 dBm								
МЗ	1		74	1.6 MHz	-27	7.34 dBm	1							

Primary Component Carrier Configuration

S LTE Signaling 1	LTE Signaling 1 - V3.2.82 - Base V 3.2.69								LTE Signaling 1 - V3.2.82 - Base V 3.2.69								
Connection St	atus		PCC 5	SCC1			LTE 1	1 1	Connection St	atus		PCC	SCC1			LTE 1	
Cell			Operating Band	Band 4	-	FDD 💌	TX Meas.		Cell			Operating Band	Band 17		FDD 💌	TX Me	
Packet Switched	Attached	1		Downlink		Uplink			Packet Switched	📩 Attach	bd		Downlink				
RRC State SCC1 State	Connects MAC Act		Channel	2000 0	h	20000 Ch	LTE 1 RX Meas.		RRC State SCC1 State	Connec MAC Ar		Channel	57	'90 Ch		LTE 1 RX M	
Event Log	mas act	THE CO	Frequency	2115.0 M	AHz	1715.0 MHz	ļ		Event Log	mass an		Frequency	74	0.0 MHz			
17:15:20 SCC1	1 State 'SCC MAC J		Cell Bandwidth	10.0 MHz	-	10.0 MHz /	Go to		17:15:20 SCC1			Cell Bandwidth	10.0 MHz		•	Go to	
17:15:20 SCC1	1 State 'SCC RRC J 1 State 'SCC Ox'	\dded'	RS EPRE		lBm/15kHz				17:15:20 3 SCC1		Added	RS EPRE		9.8 dBm/15kHz 2.0 dBm		00.00	
17:15:12 SCC1			Full Cell BW Pov					17:15:12 SCC1 State SCC Off				Full Cell BW Po					
17:15:12() SCC1 State 'SCC On' PUSCH Open Loop Nom.Power 17:15:11() SCC1 State 'SCC RRC Added'				10 dBm	Routing			17:15:12 1 SCC1 State 'SCC On' 17:15:11 SCC1 State 'SCC RRC Added'			Swap			Routin			
17:13:03 SCC1 State SCC MAC Activated PUSCH Closed Loop Target Power -10.0 dBm						17:13:03 0 SCC1 State 'SCC MAC Activated'											
17-13-03-6 SCC1	1 State 'SCC RRC #	lded"	Connection Se					17-1903 SCC1 State SCC BRC &dater Sched RMC									
UE Measurem	ient Report 🔹 🖙	On 🗆	Sched. RMC						UE Measurem	ent Report 🔹 🕅	on 🗆						
RSR	op.	RSRO						1	RSR	D	RSRO	PCC -> SCC1	Сору				
-PCC 78 (-	63 to -62 dBm)	21 (-9.5 to -9 dB)		Downlink	Up	plink			-PCC 78 (-	53 to -62 dBm)	22 (-9 to -8.5 dB)		Downlink				
-SCC1 86 (-	55 to -54 dBm)	22 (-9 to -8.5 dB)	# R8		50 -	1 -			-SCC1 86 (-	55 to -54 dBm)	24 (-8 to -7.5 dB)	# R8		50 -			
			RB Pos./Start R	B low •	0	low • 0						RB Pos./Start P	RB low •	0			
			Modulation	(OPSK •	OPSK •						Modulation		QPSK •			
			TBS Idx / Value	5	4392	5 72	LTE Signaling					TBS Idx / Value	5	4392		LTE Signa	
			Throughput	3.953 1	Mbit/s	0.072 Mbit/s						Throughput	3.953	Mbit's		ON	
Detach	Connect	scc off		Se	nd SMS	Inter/Intra- RAT	Config		Detach	Connect	scc off		s		Inter/Intra- RAT	Config	



E.3.10 CA_4A_29A

Spectrum											
Ref Level 🗄		Offset 13.00 dB									
Att	35 dB	😑 SWT 100 ms	5 VBW 20 MHz	Mode Auto Sv	veep						
●1Rm View											
				M3[1]	M1	-26.60 dBm					
20 dBm				M1[1]	Ţ	721.360 MHz 21.25 dBm					
				M1[1]		21.25 dBm 1.710500 GHz					
10 dBm					<u> </u>						
0 dBm											
-10 dBm											
-10 aBm											
-20 dBm											
-20 dBm -30 dBm -40 dBm						M2					
-30 dBm											
				1	11						
-40 dBm		Construction of the second second			her ward and the second	the second second second between the					
-50 dBm											
CO dDas											
-60 dBm											
Start 700.0	MHz		2001 pt	s		Stop 2.2 GHz					
Marker											
Type Ref		X-value	Y-value	Function	Fur	nction Result					
M1 M2	1	1.7105 GHz 2.1153 GHz	21.25 dBm -27.30 dBm		1						
M2 M3	1	721.36 MHz	-27.30 dBm								

Primary Component Carrier Configuration

LTE Signaling 1 - V3.2.82 - Base V 3.2.69						LTE	LTE Signaling 1 - V3.2.82 - Base V 3.2.69								
Connection Status		PCC	SCC1			LTE 1	Connection St	atus		PCC	SCC1			LTE 1	
Cell 🙀		Operating Band	Band 4		• FDD 🛛	TX Meas.	Cell			Operating Band	Band 29		FDD 🖂	TX Meas.	
Packet Switched Attached			Downlink		Uplink		Packet Switched	Attache	1		Downlink				
RRC State Connected SCC1 State MAC Activated		Channel	200	0 Ch	20000 Ch	LTE 1 RX Meas.	RRC State SCC1 State	Connect MAC Act		Channel	9	715 Ch		LTE 1 RX Meas.	
Event Log		Frequency	2115.	0 MHz	1715.0 MHz		Event Log	marce pres	THE CO	Frequency	72	2.5 MHz		<u> </u>	
17:17:29 SCC1 State 'SCC MAC Activated'		Cell Bandwidth	10.0 MH	lz -	• 10.0 MHz <	Go to		1 State 'SCC MAC	Activated"	Cell Bandwidth	10.0 MHz		•	Go to	
17:17:29 SCC1 State 'SCC RRC Added' 17:17:29 SCC1 State 'SCC On'	Ided" RS EPRE		-59.	.8 dBm/15kHz			17:17:29 SCC1 State 'SCC RRC Added' 17:17:29 SCC1 State 'SCC On'	RS EPRE	S EPRE -59.8 dBm/15kHz	1					
17:17:29 SCC1 state SCC Off 17:17:20 SCC1 State 'SCC Off'		Full Cell BW Po	w32	.0 dBm			17:17:20 SCC			Full Cell BW Po	w3	2.0 dBm			
17:17:20 SCC1 State 'SCC On'		PUSCH Open Lo	op Nom.Pr	ower	10 dBm	Routing	17:17:20 SCC			SCC1 <-> PCC	Swaj	p		Routing	
17:17:20 SCC1 State 'SCC RRC Added' 17:15:20 SCC1 State 'SCC MAC Activated'		PUSCH Closed	oop Targe	t Power	-10.0 dBm	<u> </u>		1 State "SCC RRC / 1 State "SCC MAC						<u> </u>	
17-15-20 A SCC1 State 'SCC RRC &dded'		Connection Se					17-15-20 6 SCC	1 State 'SCC RRC I	ldded"	Connection S Sched. RMC	etup				
UE Measurement Report = 🔽 🛛 On		Sched. RMC	oup	*			UE Measurem	ient Report 👻 🔽	On 🗆	Denea. Poinc					
RSRP RSR0							RSF	D	RSRO	PCC -> SCC1	Сору				
-PCC 78 (-63 to -62 dBm) 21 (-9.5 to -			Downlink	k l	Jplink		-PCC 786	63 to -62 dBm)	22 (-9 to -8.5 dB)		Downlink				
SCC1 86 (-55 to -54 dBm) 22 (-9 to -8.	5 dB)	# R8		50 -	1 -		-SCC1 86 (55 to -54 dBm)	23 (-8.5 to -8 dB)	# R8		50 -			
		RB Pos./Start R	B low	• 0	low • 0					RB Pos./Start P	RB low •	0			
		Modulation		OPSK •	OPSK •					Modulation		OPSK -			
		TBS Idx / Value	5	4392	5 72	LTE Signaling				TBS Idx / Value	5	4392		LTE Signaling	
		Throughput	3.9	53 Mbit/s	0.072 Mbit's					Throughput	3.95	3 Mbit/s		Signaling ON	
Detach Connect SCC Off				Send SMS	Inter/Intra- RAT	Config	Detach	Connect	scc off				Inter/Intra- RAT	Config	