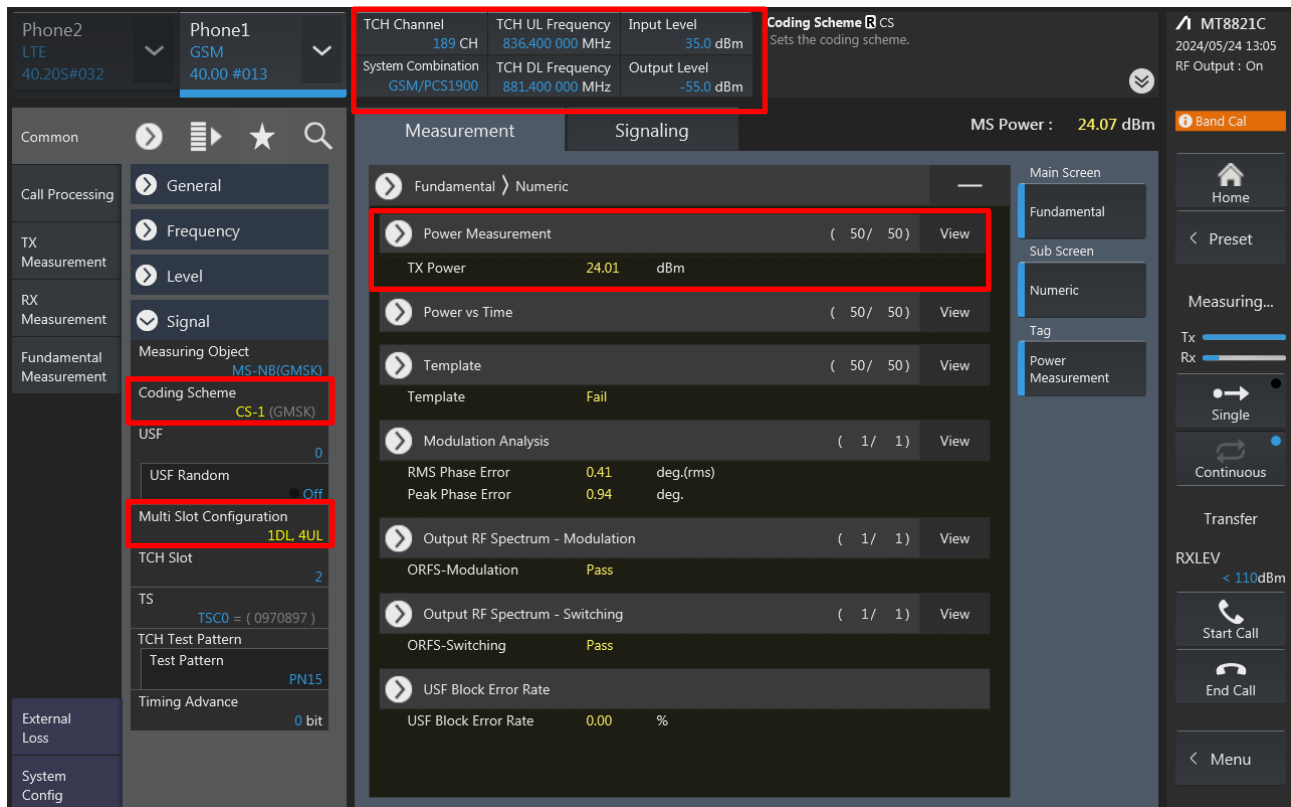


Power measurement connection diagram:

The power measurement for 2G/3G/LTE/5G FR1/UL and DL CA is to establish a connection between device and call box, and via call box to configure Bands, channel, BWs, RB size, carrier aggregation of CA, frequency channels, SCS and maximum output power. Hereunder is screenshot call box connection information for 2G/3G/LTE/5G FR1/UL and DL CA.

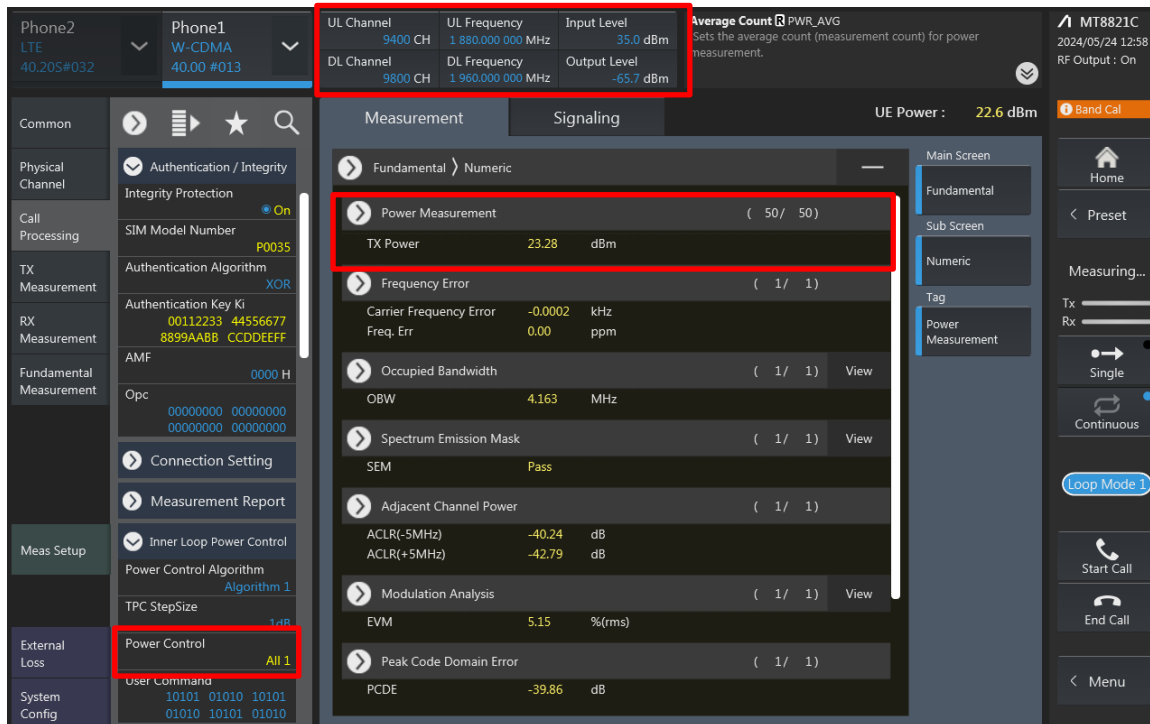
<GSM>



The screenshot displays the SPORTON LAB. software interface for GSM power measurement. The interface is divided into several sections:

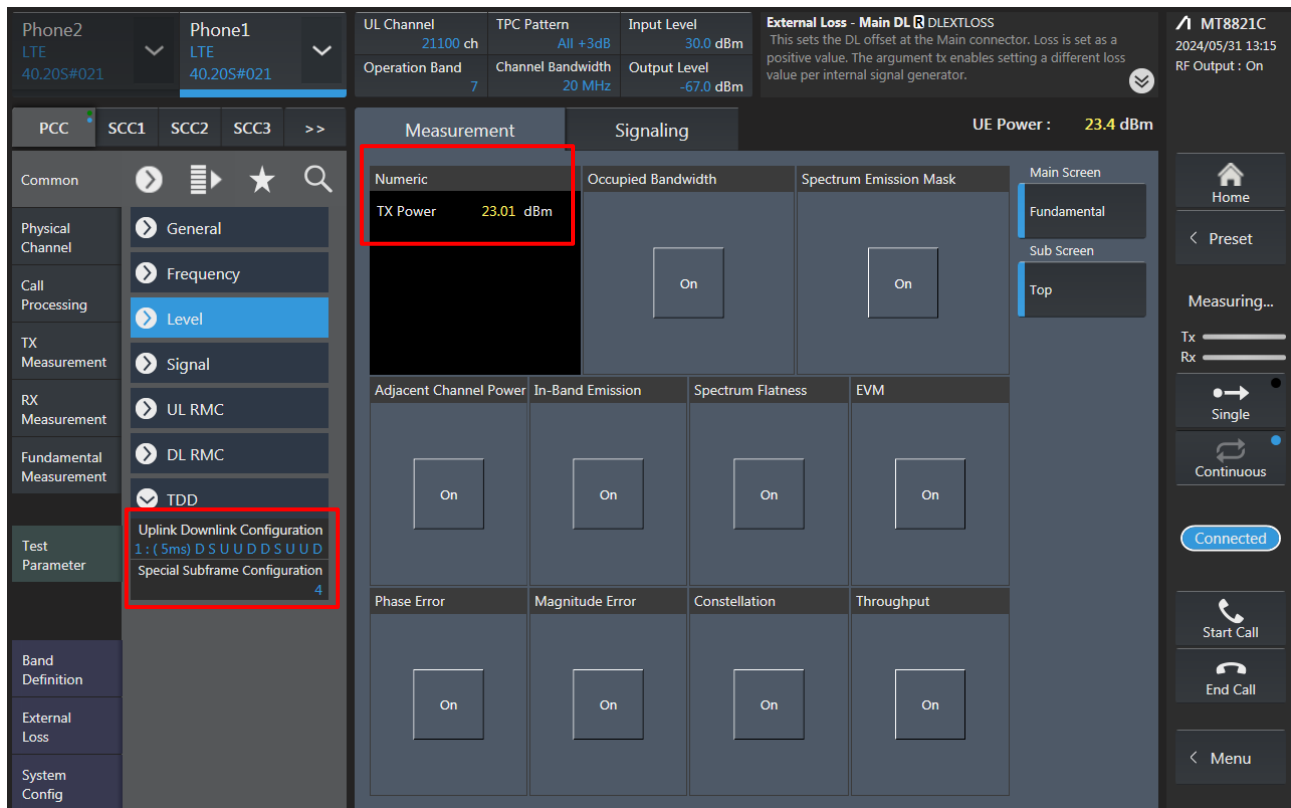
- Top Bar:** Shows Phone2 (LTE, 40.205#032) and Phone1 (GSM, 40.00 #013). The TCH Channel is 189 CH, TCH UL Frequency is 836.400 000 MHz, Input Level is 35.0 dBm, and Coding Scheme is CS. The TCH DL Frequency is 881.400 000 MHz, and Output Level is -55.0 dBm.
- Left Sidebar:** Contains navigation options: Common, Call Processing, TX Measurement, RX Measurement, Fundamental Measurement, External Loss, and System Config.
- Main Panel:**
 - Measurement Tab:** Shows the 'Fundamental' view. The 'Power Measurement' section is highlighted, showing TX Power as 24.01 dBm. Other sections include Power vs Time, Template, Modulation Analysis, Output RF Spectrum - Modulation, Output RF Spectrum - Switching, and USF Block Error Rate.
 - Signaling Tab:** Shows the 'Fundamental' view.
- Right Sidebar:** Contains navigation options: Main Screen, Fundamental, Sub Screen, Numeric, Tag, Power Measurement, Home, Preset, Measuring..., Single, Continuous, Transfer, RXLEV, Start Call, End Call, and Menu.

<WCDMA>



The screenshot shows the WCDMA measurement interface. The top bar displays 'Phone2 LTE 40.20S#032' and 'Phone1 W-CDMA 40.00 #013'. The 'Measurement' tab is active, showing 'Fundamental' and 'Numeric' views. The 'Power Measurement' section is highlighted with a red box, showing 'TX Power' as 23.28 dBm. The 'Occupied Bandwidth' section shows 'OBW' as 4.163 MHz. The 'Adjacent Channel Power' section shows 'ACLR(-5MHz)' as -40.24 dB and 'ACLR(+5MHz)' as -42.79 dB. The 'Modulation Analysis' section shows 'EVM' as 5.15 % (rms). The 'Peak Code Domain Error' section shows 'PCDE' as -39.86 dB. The 'UE Power' is 22.6 dBm. The 'Band Cal' button is visible on the right. The 'Common' sidebar on the left includes 'Physical Channel', 'Call Processing', 'TX Measurement', 'RX Measurement', 'Fundamental Measurement', 'Meas Setup', 'External Loss', 'System Config', and 'Power Control' (highlighted with a red box).

<LTE>



The screenshot shows the LTE measurement interface. The top bar displays 'Phone2 LTE 40.20S#021' and 'Phone1 LTE 40.20S#021'. The 'Measurement' tab is active, showing 'Numeric' and 'Occupied Bandwidth' views. The 'Power Measurement' section is highlighted with a red box, showing 'TX Power' as 23.01 dBm. The 'Occupied Bandwidth' section shows 'OBW' as 20 MHz. The 'Spectrum Emission Mask' section shows 'SEM' as Pass. The 'Adjacent Channel Power' section shows 'ACLR(-5MHz)' as -40.24 dB and 'ACLR(+5MHz)' as -42.79 dB. The 'Modulation Analysis' section shows 'EVM' as 5.15 % (rms). The 'Peak Code Domain Error' section shows 'PCDE' as -39.86 dB. The 'UE Power' is 23.4 dBm. The 'Band Cal' button is visible on the right. The 'Common' sidebar on the left includes 'Physical Channel', 'Call Processing', 'TX Measurement', 'RX Measurement', 'Fundamental Measurement', 'Meas Setup', 'External Loss', 'System Config', and 'Power Control' (highlighted with a red box). The 'Test Parameter' section shows 'Uplink Downlink Configuration 1: (5ms) D S U U D D S U U D' and 'Special Subframe Configuration 4'.

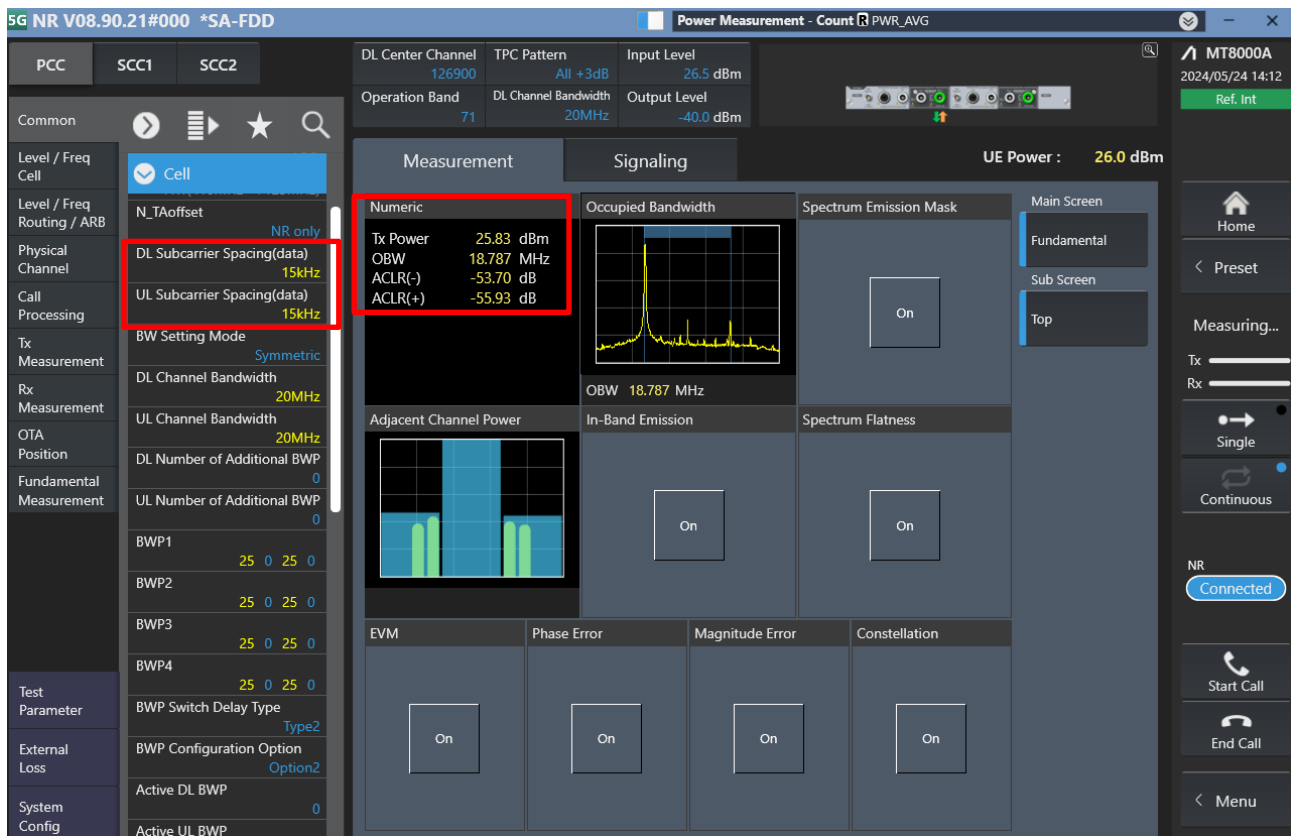
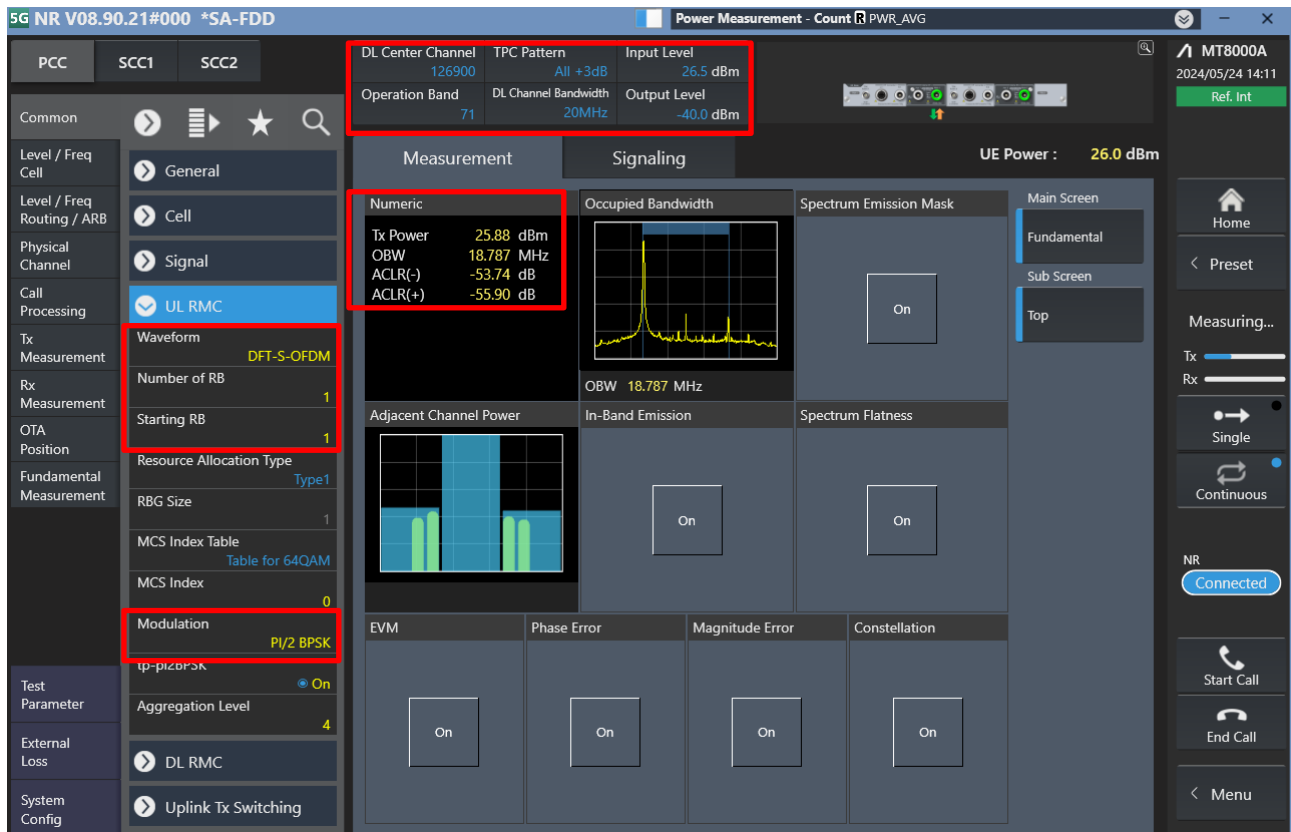
<LTE TDD Power class 3>

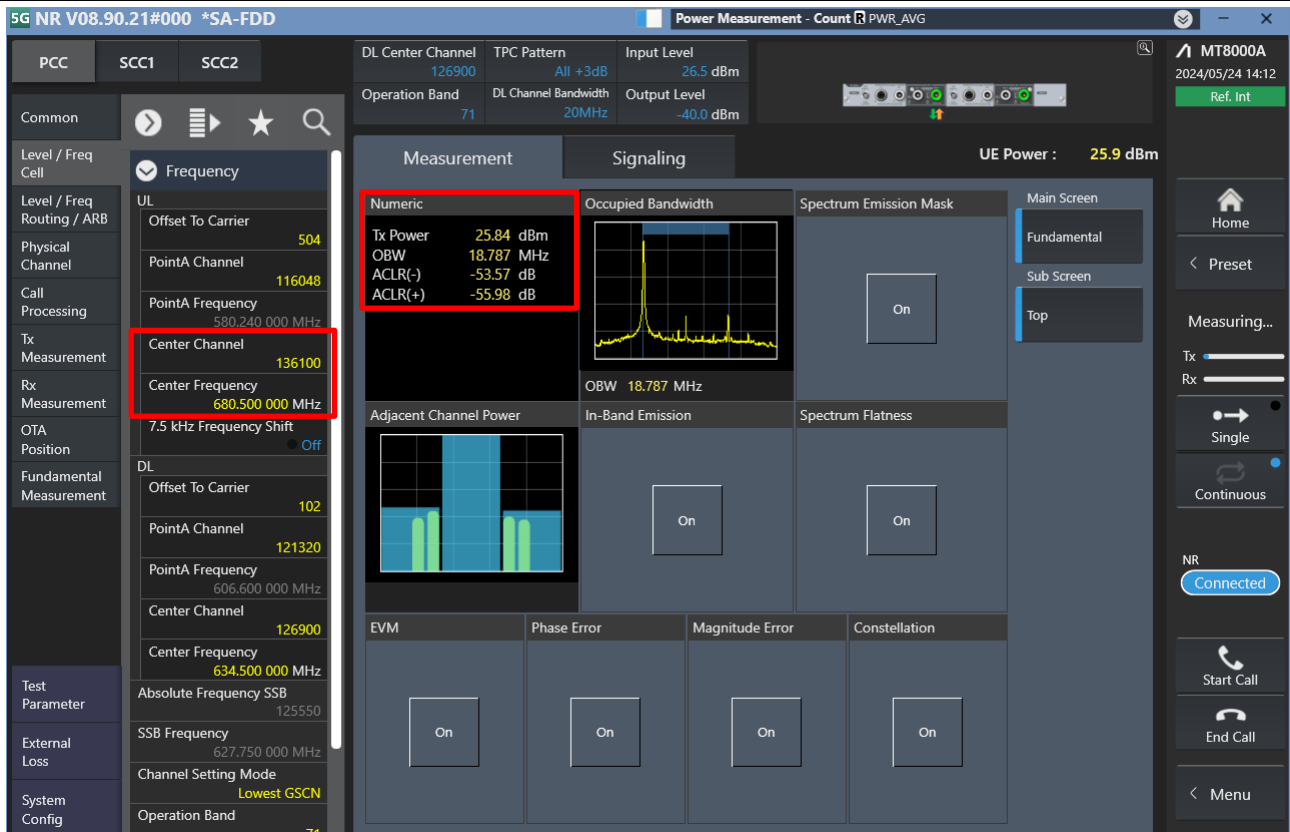
The screenshot displays the 5G NR Measurement and Signaling interface. The top bar shows the phone's status (Phone2, LTE, 40.20S#021) and the measurement configuration (UL Channel 40620 ch, TPC Parameter All +3dB, Input Level 30.0 dBm, Operation Band 41, Channel Bandwidth 20 MHz, Output Level -54.2 dBm). The 'TDD - Special Subframe Configuration' is selected, with a note indicating it's the parameter to select the special subframe configuration. The 'UE Power' is 23.5 dBm.

The interface is divided into two main sections: Measurement and Signaling. The Measurement section includes a list of parameters on the left (Common, Physical Channel, Call Processing, TX Measurement, RX Measurement, Fundamental Measurement, Test Parameter) and a grid of measurement results on the right. The Signaling section includes a list of parameters on the left (Occupied Bandwidth, Spectrum Emission Mask, Adjacent Channel Power, In-Band Emission, Spectrum Flatness, EVM, Phase Error, Magnitude Error, Constellation, Throughput) and a grid of signaling results on the right.

The 'Fundamental Measurement' section is highlighted, showing the 'TDD' option selected. The 'Special Subframe Configuration' is set to '5'. The 'TX Power' is 23.19 dBm. The 'Occupied Bandwidth' and 'Spectrum Emission Mask' are both 'On'. The 'Adjacent Channel Power', 'In-Band Emission', 'Spectrum Flatness', and 'EVM' are all 'On'. The 'Phase Error', 'Magnitude Error', 'Constellation', and 'Throughput' are all 'On'.

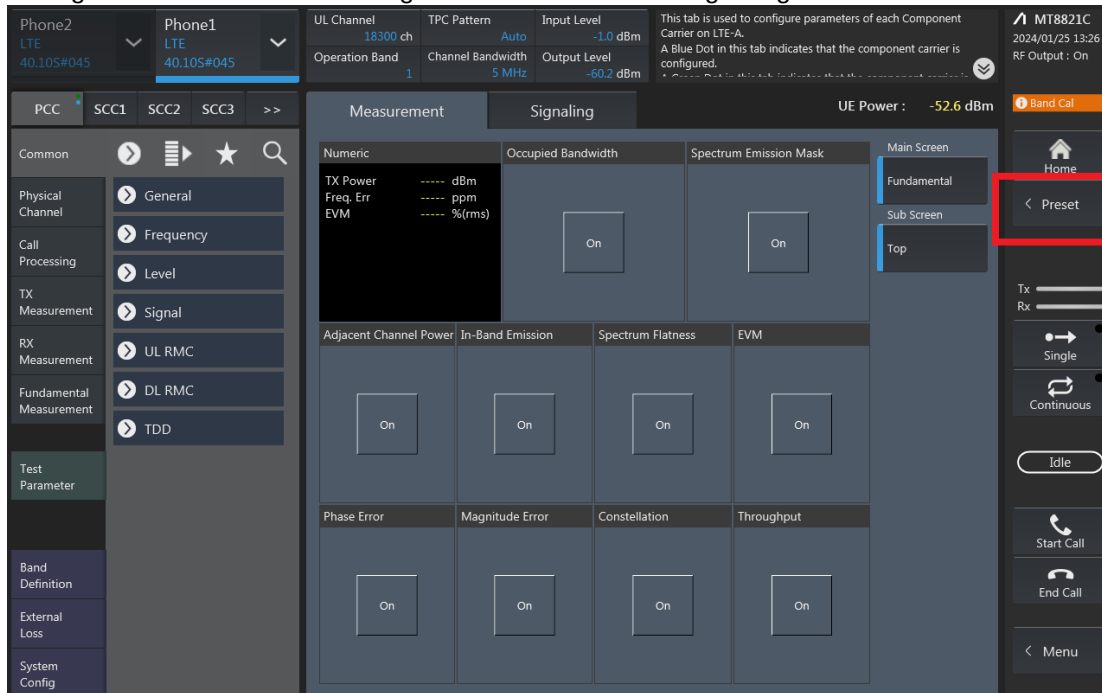
<5G NR FR1>





LTE Uplink and Downlink Carrier Aggregation configurations:

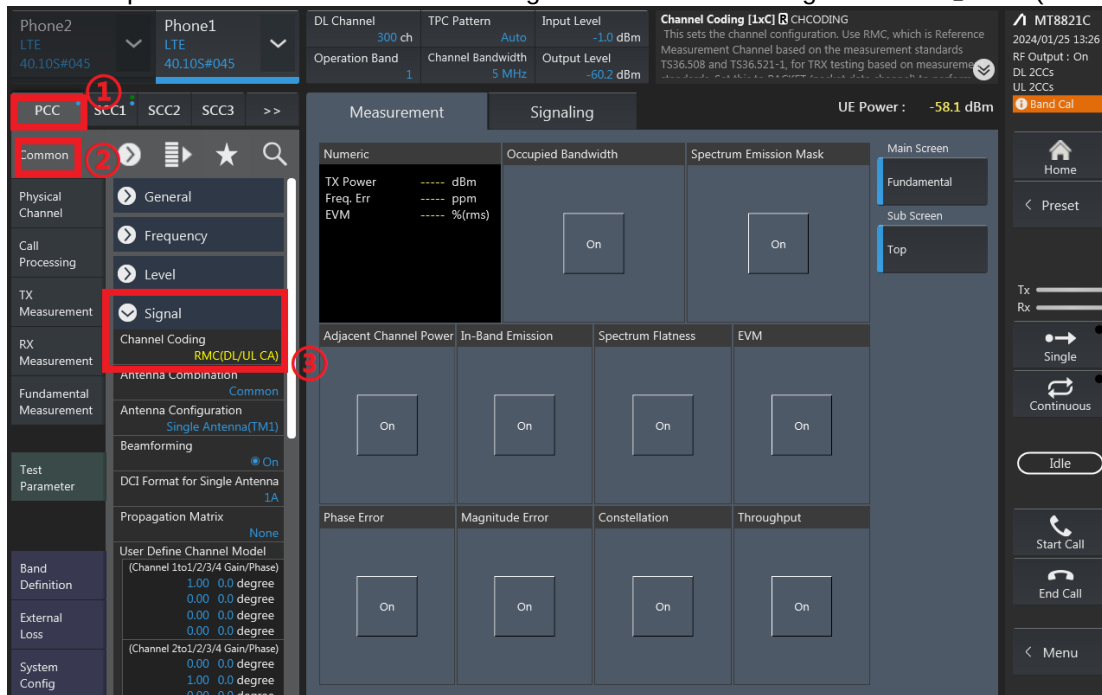
1. Change the Scenario in the Configuration of Phone1 LTE Signaling and Preset.



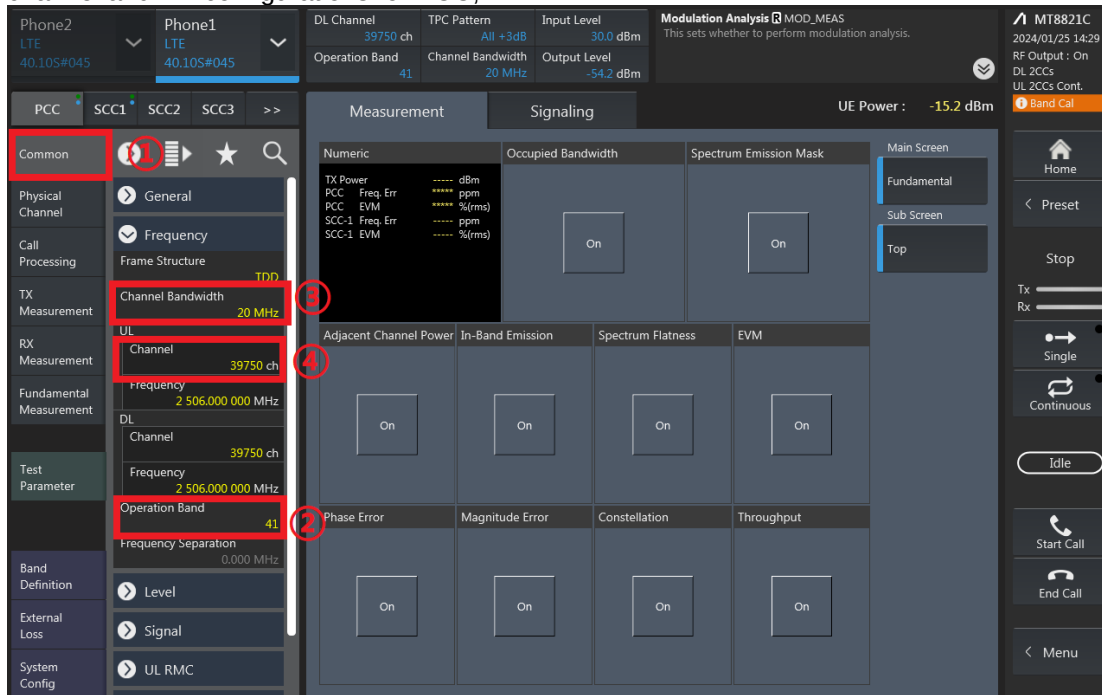
2. If Select "RMC (DL/UL CA)" for Uplink Carrier Aggregation; If Select "RMC (DL CA)" for Downlink Carrier Aggregation.

For example, Uplink Carrier Aggregation:

Detailed operation: PCC → Common → Signal → Channel Coding → Select 【RMC (DL/UL CA)】



3. PCC parameter Settings: on the screen, and then select the PCC tab and Set operating band, BW, channel and RB configurations for PCC;



Phone2 LTE 40.10S#045 Phone1 LTE 40.10S#045

DL Channel 39750 ch TPC Pattern All +3dB Input Level 30.0 dBm Modulation Analysis MOD_MEAS This sets whether to perform modulation analysis.

Operation Band 41 Channel Bandwidth 20 MHz Output Level -54.2 dBm

MT8821C 2024/01/25 14:29 RF Output : On DL 2CCs UL 2CCs Cont.

UE Power : -15.2 dBm

Measurement Signaling

Common

Physical Channel General

Call Processing Frequency

TX Measurement Channel Bandwidth 20 MHz

RX Measurement Channel 39750 ch

Fundamental Measurement Frequency 2 506.000 000 MHz

Test Parameter Channel 39750 ch Frequency 2 506.000 000 MHz Operation Band 41 Frequency Separation 0.000 MHz

Band Definition Level

External Loss Signal

System Config UL RMC

Numeric

TX Power PCC Freq. Err. dBm PCC EVM ppm SCC-1 Freq. Err. ppm SCC-1 EVM ppm

Occupied Bandwidth

Spectrum Emission Mask

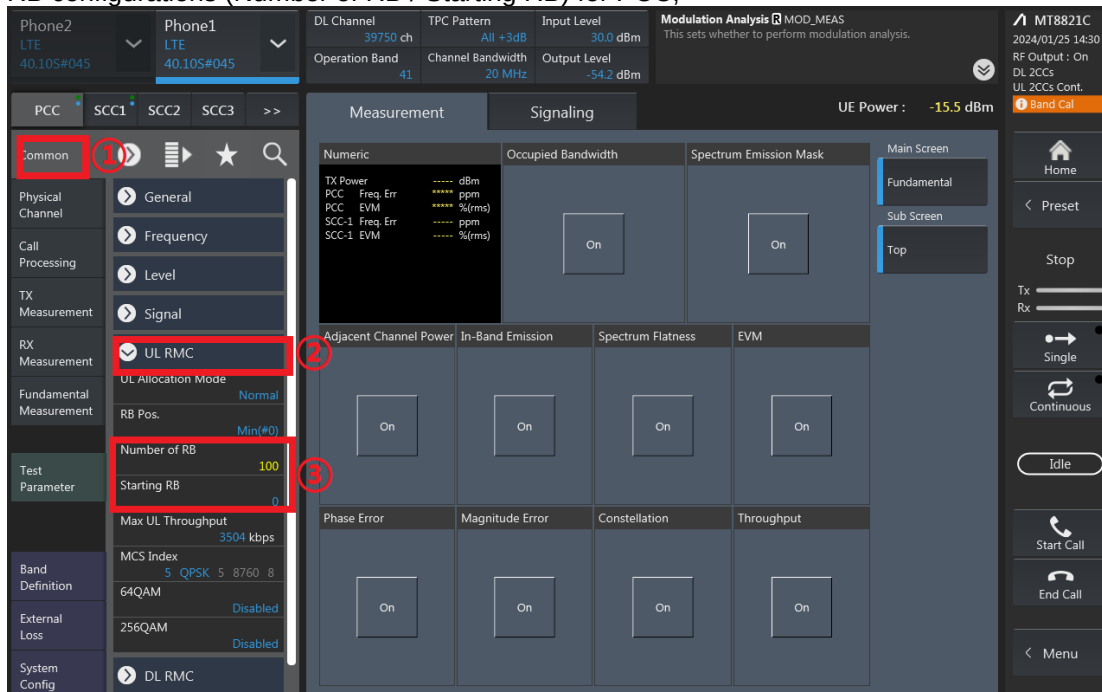
Main Screen Fundamental Sub Screen Top

Home Preset Stop Tx Rx Single Continuous Idle Start Call End Call Menu

Adjacent Channel Power In-Band Emission Spectrum Flatness EVM

Phase Error Magnitude Error Constellation Throughput

RB configurations (Number of RB / Starting RB) for PCC;



Phone2 LTE 40.10S#045 Phone1 LTE 40.10S#045

DL Channel 39750 ch TPC Pattern All +3dB Input Level 30.0 dBm Modulation Analysis MOD_MEAS This sets whether to perform modulation analysis.

Operation Band 41 Channel Bandwidth 20 MHz Output Level -54.2 dBm

MT8821C 2024/01/25 14:30 RF Output : On DL 2CCs UL 2CCs Cont.

UE Power : -15.5 dBm

Measurement Signaling

Common

Physical Channel General

Call Processing Level

TX Measurement Signal

RX Measurement UL RMC

Fundamental Measurement UL Allocation Mode Normal

Test Parameter RB Pos. Min(#0) Number of RB 100 Starting RB 0

Band Definition MCS Index 5 QPSK 5 8760 8

External Loss 64QAM 256QAM Disabled

System Config DL RMC

Numeric

TX Power PCC Freq. Err. dBm PCC EVM ppm SCC-1 Freq. Err. ppm SCC-1 EVM ppm

Occupied Bandwidth

Spectrum Emission Mask

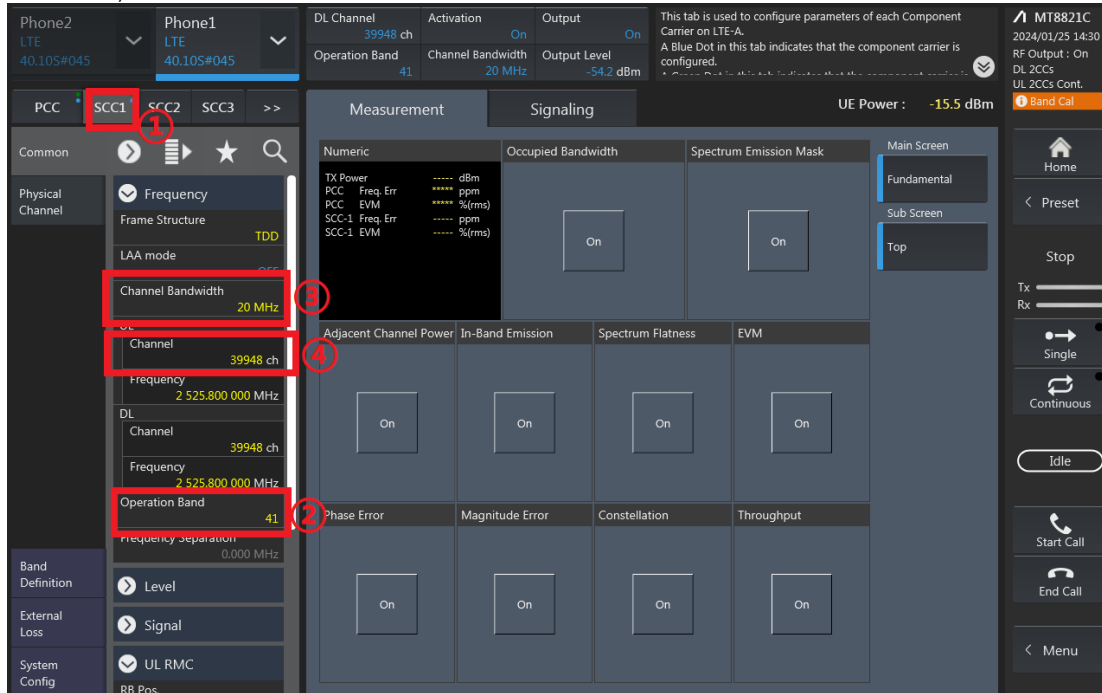
Main Screen Fundamental Sub Screen Top

Home Preset Stop Tx Rx Single Continuous Idle Start Call End Call Menu

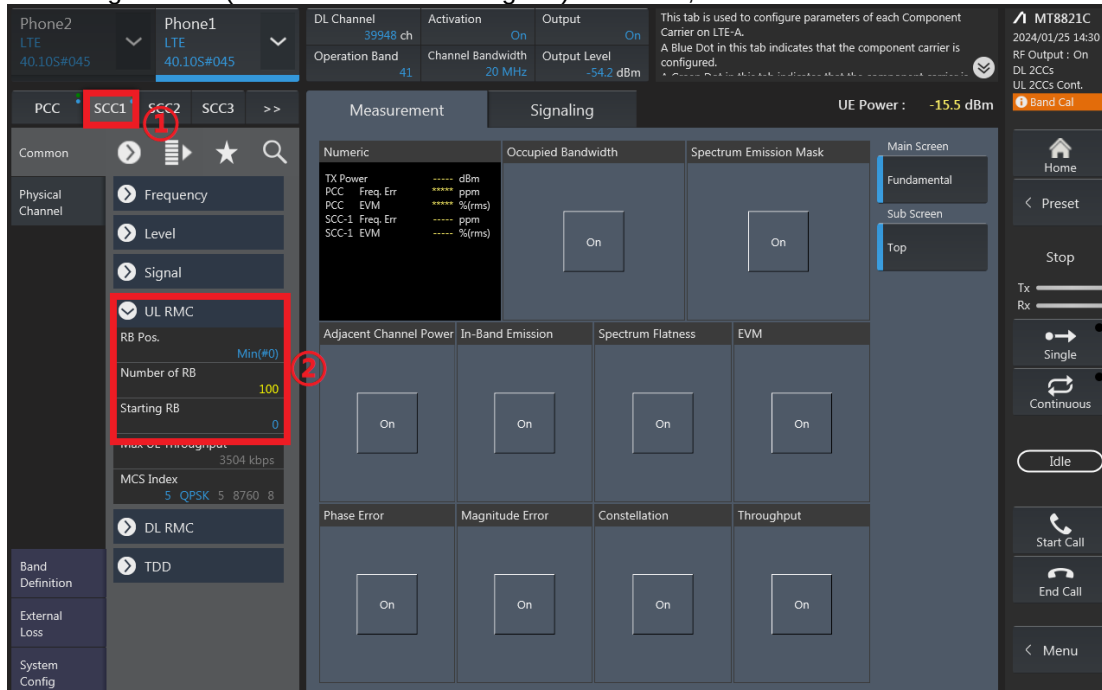
Adjacent Channel Power In-Band Emission Spectrum Flatness EVM

Phase Error Magnitude Error Constellation Throughput

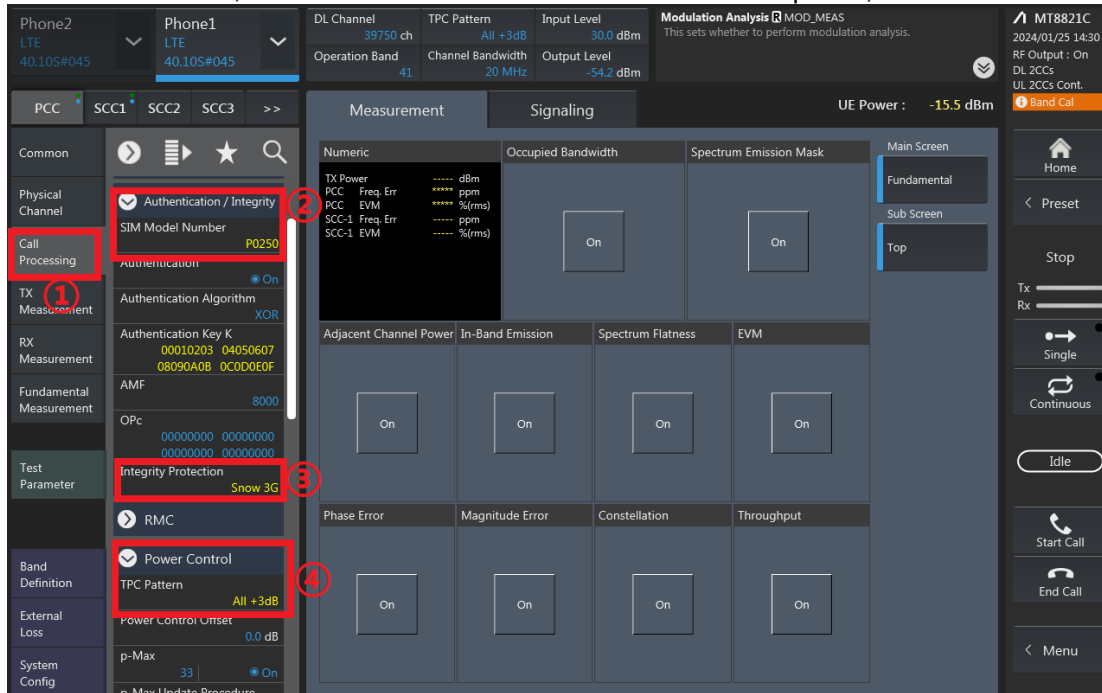
4. SCC parameter Settings: Select the SCC1 tab, Set operating band, BW, channel, and RB configurations for SCC1;



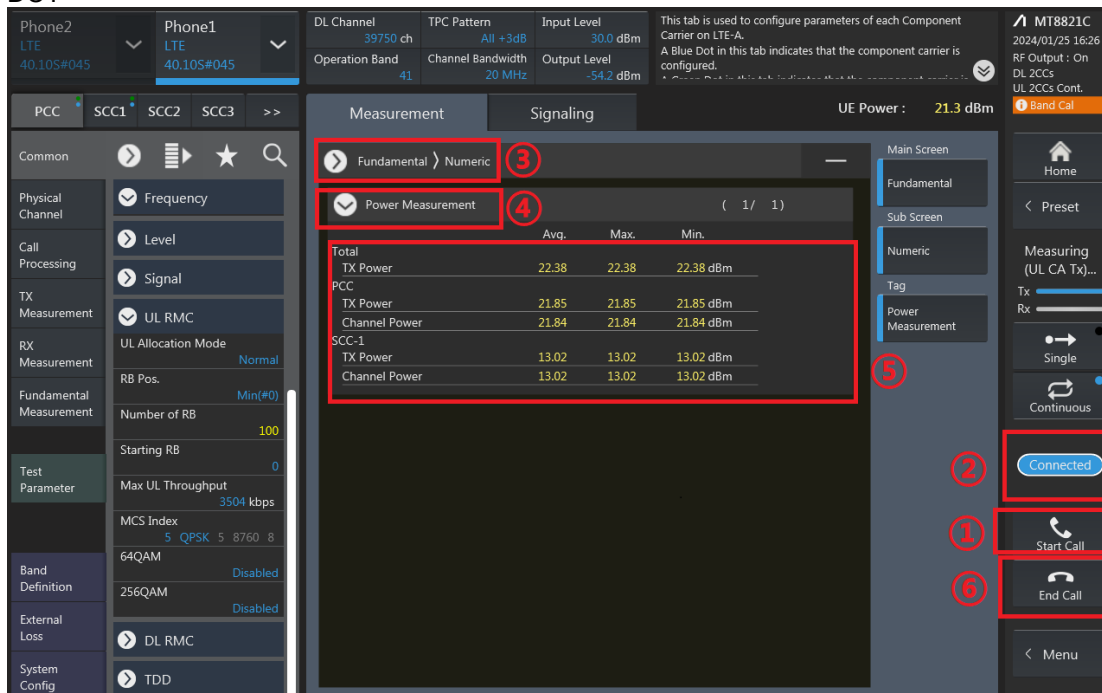
RB configurations (Number of RB / Starting RB) for SCC1;



5. Select the PCC tab, then set “SIM Model Number” and select max power;



6. Click the “Connect” button at the Right of the screen, if necessary, turn the Airplane mode on/off in the DUT



	Avg.	Max.	Min.
Total TX Power	22.38	22.38	22.38 dBm
PCC TX Power	21.85	21.85	21.85 dBm
Channel Power	21.84	21.84	21.84 dBm
SCC-1 TX Power	13.02	13.02	13.02 dBm
Channel Power	13.02	13.02	13.02 dBm

7. The inter-band ULCA test method is similar to intra-band ULCA, and DLCA test method is similar to intra-band ULCA too.

UL CA power

Fu11 Power&DS12

CA_7C Ant 1								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20850	21048	QPSK	1	99	1	0	22.91	24.00
21100	21298	QPSK	1	99	1	0	23.01	24.00
21350	21152	QPSK	1	0	1	99	22.95	24.00

Fu11 Power&DS12&DS13

CA_38C Ant 1								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
37850	38048	QPSK	1	99	1	0	23.05	24.00
37901	38099	QPSK	1	99	1	0	23.11	24.00
38150	37952	QPSK	1	0	1	99	23.08	24.00

Full Power&DSI2&DSI3

CA_41C Ant 1								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	99	1	0	23.04	24.00
40185	40383	QPSK	1	99	1	0	23.06	24.00
40620	40818	QPSK	1	99	1	0	23.13	24.00
41055	41253	QPSK	1	99	1	0	23.01	24.00
41490	41292	QPSK	1	0	1	99	23.11	24.00

Full Power&DSI2&DSI3

CA_42C Ant 5								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
42190	42388	QPSK	1	99	1	0	23.01	24.00
42590	42788	QPSK	1	99	1	0	23.04	24.00
42990	42792	QPSK	1	0	1	99	22.98	24.00

UL CA power

DSI 3

CA_7C Ant 1								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20850	21048	QPSK	1	99	1	0	22.57	23.50
21100	21298	QPSK	1	99	1	0	22.65	23.50
21350	21152	QPSK	1	0	1	99	22.59	23.50

DSI 7

CA_7C Ant 1								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20850	21048	QPSK	1	99	1	0	20.78	21.80
21100	21298	QPSK	1	99	1	0	20.85	21.80
21350	21152	QPSK	1	0	1	99	20.72	21.80

DSI 6

CA_7C Ant 1								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20850	21048	QPSK	1	99	1	0	20.78	21.80
21100	21298	QPSK	1	99	1	0	20.85	21.80
21350	21152	QPSK	1	0	1	99	20.72	21.80

DSI 7

CA_38C Ant 1								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
37850	38048	QPSK	1	99	1	0	23.05	24.00
37901	38099	QPSK	1	99	1	0	23.11	24.00
38150	37952	QPSK	1	0	1	99	23.08	24.00

DSI 6

CA_38C Ant 1								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
37850	38048	QPSK	1	99	1	0	23.05	24.00
37901	38099	QPSK	1	99	1	0	23.11	24.00
38150	37952	QPSK	1	0	1	99	23.08	24.00

DSI 2

CA_42C Ant 5								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
42190	42388	QPSK	1	99	1	0	17.25	18.60
42590	42788	QPSK	1	99	1	0	17.34	18.60
42990	42792	QPSK	1	0	1	99	17.27	18.60

DSI 3

CA_42C Ant 5								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
42190	42388	QPSK	1	99	1	0	17.25	18.10
42590	42788	QPSK	1	99	1	0	17.34	18.10
42990	42792	QPSK	1	0	1	99	17.27	18.10

DSI 7

CA_41C Ant 1								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	99	1	0	23.04	24.00
40185	40383	QPSK	1	99	1	0	23.06	24.00
40620	40818	QPSK	1	99	1	0	23.13	24.00
41055	41253	QPSK	1	99	1	0	23.01	24.00
41490	41292	QPSK	1	0	1	99	23.11	24.00

DSI 7

CA_42C Ant 5								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
42190	42388	QPSK	1	99	1	0	15.77	16.70
42590	42788	QPSK	1	99	1	0	15.82	16.70
42990	42792	QPSK	1	0	1	99	15.71	16.70

DSI 6

CA_41C Ant 1								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	99	1	0	23.04	24.00
40185	40383	QPSK	1	99	1	0	23.06	24.00
40620	40818	QPSK	1	99	1	0	23.13	24.00
41055	41253	QPSK	1	99	1	0	23.01	24.00
41490	41292	QPSK	1	0	1	99	23.11	24.00

DSI 6

CA_42C Ant 5								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
42190	42388	QPSK	1	99	1	0	20.17	21.60
42590	42788	QPSK	1	99	1	0	20.22	21.60
42990	42792	QPSK	1	0	1	99	20.15	21.60

2CA DL																
CA List	PCC								SCC					Power		
	LTE Band	BW	BW	UL	UL	Mod.	UL/LB	UL	DL Antenna Configuration	LTE Band	BW	DL	DL	DL Antenna Configuration	With CA Tx Power (dBm)	Without CA Tx Power (dBm)
	Ant.	(MHz)	Freq. (MHz)	Channel			RB	Offset				(MHz)	Channel			
CA_26A-41A	Band 26	Ant 0	15M	831.5	26885	QPSK	1	0		Band 41	20M	2593	40620		22.91	23.06
	Band 26	Ant 4	15M	831.5	26885	QPSK	1	0		Band 41	20M	2593	40620		22.80	22.97
	Band 41	Ant 1	20M	2593	40620	QPSK	1	0		Band 26	15M	876.5	8865		22.97	23.17
	Band 41	Ant 4	20M	2593	40620	QPSK	1	0		Band 26	15M	876.5	8865		22.48	22.58
CA_2A-26A	Band 2	Ant 1	20M	1880	18900	QPSK	1	0	4xMMMO	Band 26	15M	876.5	8865		22.91	22.92
	Band 2	Ant 4	20M	1880	18900	QPSK	1	0	4xMMMO	Band 26	15M	876.5	8865		22.04	22.18
	Band 26	Ant 0	15M	831.5	26885	QPSK	1	0		Band 2	20M	1960	900	4xMMMO	22.93	23.06
	Band 26	Ant 4	15M	831.5	26885	QPSK	1	0		Band 2	20M	1960	900	4xMMMO	22.86	22.97
CA_38C	Band 38	Ant 1	20M	2580	37850	QPSK	1	0		Band 38	20M	2599.8	38048		22.91	22.96
	Band 38	Ant 4	20M	2580	37850	QPSK	1	0		Band 38	20M	2599.8	38048		22.42	22.54
CA_41C	Band 41	Ant 1	20M	2593	40620	QPSK	1	0		Band 41	20M	2612.8	40818		23.04	23.17
	Band 41	Ant 4	20M	2593	40620	QPSK	1	0		Band 41	20M	2612.8	40818		22.41	22.58
CA_41A-42A	Band 41	Ant 1	20M	2593	40620	QPSK	1	0		Band 42	20M	3500	42590	4xMMMO	23.05	23.17
	Band 42	Ant 4	20M	3500	42590	QPSK	1	0	4xMMMO	Band 41	20M	2593	40620		22.44	22.58
CA_42A-42A	Band 42	Ant 5	20M	3500	42590	QPSK	1	0	4xMMMO	Band 41	20M	2593	40620		23.05	23.15
	Band 42	Ant 5	20M	3500	42590	QPSK	1	0	4xMMMO	Band 42	5M	3547.5	43065	4xMMMO	22.91	23.15
CA_66B	Band 66	Ant 1	15M	1745	132322	QPSK	1	0	4xMMMO	Band 66	5M	2164.3	66979	4xMMMO	22.91	22.97
	Band 66	Ant 4	15M	1745	132322	QPSK	1	0	4xMMMO	Band 66	5M	2164.3	66979	4xMMMO	22.03	22.15
CA_7A-42A	Band 7	Ant 1	20M	2535	21100	QPSK	1	0	4xMMMO	Band 42	20M	3500	42590	4xMMMO	22.94	23.03
	Band 7	Ant 4	20M	2535	21100	QPSK	1	0	4xMMMO	Band 42	20M	3500	42590	4xMMMO	22.62	22.74
	Band 42	Ant 5	20M	3500	42590	QPSK	1	0	4xMMMO	Band 7	20M	2655	3100	4xMMMO	23.03	23.15

3CA DL																										
3CA List	PCC								SCC1								SCC2								Power	
	LTE	BW	BW	UL	UL	UL#	UL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	With CA	Without CA						
	Band	Ant	(MHz)	Freq. (MHz)	Channel	Mod.	RB	RB Offset	Band	(MHz)	Freq. (MHz)	Channel	Band	(MHz)	Freq. (MHz)	Channel	Band	(MHz)	Freq. (MHz)	Channel	Tx. Power (dBm)	Tx. Power (dBm)				
CA_2A-2A-66A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.79	22.92					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.04	22.18					
	Band 66	Ant 1	20M	1745	132322	QPSK	1	0	4xMMMO	Band 2	20M	1880	900	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	22.79	22.97					
	Band 66	Ant 4	20M	1745	132322	QPSK	1	0	4xMMMO	Band 2	20M	1880	900	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	21.98	22.15					
CA_2A-2A-7A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 7	20M	2655	3100	4xMMMO	22.76	22.92					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 7	20M	2655	3100	4xMMMO	22.03	22.18					
	Band 7	Ant 1	20M	2535	21100	QPSK	1	0	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	22.87	23.03					
	Band 7	Ant 4	20M	2535	21100	QPSK	1	0	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	22.54	22.74					
CA_2A-4A-4A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 4	20M	1732.5	2075	4xMMMO	Band 4	5M	2152.5	2375	4xMMMO	22.74	22.92					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 4	20M	1732.5	2075	4xMMMO	Band 4	5M	2152.5	2375	4xMMMO	22.02	22.18					
	Band 4	Ant 1	20M	1732.5	2075	QPSK	1	0	4xMMMO	Band 4	5M	2152.5	2375	4xMMMO	Band 2	1880	900	4xMMMO	22.75	22.94						
	Band 4	Ant 4	20M	1732.5	2075	QPSK	1	0	4xMMMO	Band 4	5M	2152.5	2375	4xMMMO	Band 2	1880	900	4xMMMO	21.89	22.10						
CA_2A-4A-7A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	Band 7	20M	2655	3100	4xMMMO	22.76	22.92					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	Band 7	20M	2655	3100	4xMMMO	22.08	22.18					
	Band 4	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 7	20M	2655	3100	4xMMMO	Band 2	1960	900	4xMMMO	22.78	22.94						
	Band 4	Ant 4	20M	1732.5	2075	QPSK	1	0	4xMMMO	Band 7	20M	2655	3100	4xMMMO	Band 2	1960	900	4xMMMO	21.91	22.10						
CA_2A-5A-66A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	22.85	23.03					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	22.53	22.74					
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 2	1960	900	4xMMMO	22.72	22.92						
	Band 5	Ant 4	10M	836.5	20525	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 2	1960	900	4xMMMO	22.84	22.94						
CA_2A-5A-7A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 5	10M	881.5	2525	4xMMMO	22.78	22.89					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 5	10M	881.5	2525	4xMMMO	21.95	22.15					
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0	4xMMMO	Band 5	10M	881.5	2525	4xMMMO	Band 7	20M	2655	3100	4xMMMO	22.74	22.92					
	Band 5	Ant 4	10M	836.5	20525	QPSK	1	0	4xMMMO	Band 5	10M	881.5	2525	4xMMMO	Band 7	20M	2655	3100	4xMMMO	22.80	22.94					
CA_2A-66A-66A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 2	20M	1960	900	4xMMMO	22.69	22.89					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 5	10M	881.5	2525	4xMMMO	22.84	23.03					
	Band 66	Ant 1	20M	1745	132322	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	22.54	22.74					
	Band 66	Ant 4	20M	1745	132322	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	22.75	22.92					
CA_2A-7A-38A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.08	22.18					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.80	22.97					
	Band 66	Ant 1	20M	1745	132322	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.00	22.15					
	Band 66	Ant 4	20M	1745	132322	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.82	22.92					
CA_2A-7A-66A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 38	20M	2599.8	38048	4xMMMO	Band 7	20M	2655	3100	4xMMMO	22.06	22.18					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 38	20M	2599.8	38048	4xMMMO	Band 7	20M	2655	3100	4xMMMO	22.89	23.03					
	Band 7	Ant 1	20M	2535	21100	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 38	20M	2599.8	38048	4xMMMO	22.64	22.74					
	Band 7	Ant 4	20M	2535	21100	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 38	20M	2599.8	38048	4xMMMO	22.84	22.96					
CA_2A-7A-7A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 2	20M	1960	900	4xMMMO	22.37	22.54					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 2	20M	1960	900	4xMMMO	22.81	22.92					
	Band 7	Ant 1	20M	2535	21100	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 7	20M	2655	3100	4xMMMO	22.06	22.18					
	Band 7	Ant 4	20M	2535	21100	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 7	20M	2655	3100	4xMMMO	22.86	23.03					
CA_2A-7C	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.58	22.74					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.78	22.97					
	Band 66	Ant 1	20M	1745	132322	QPSK	1	0	4xMMMO	Band 7	20M	2655	3100	4xMMMO	Band 2	1960	900	4xMMMO	21.98	22.15						
	Band 66	Ant 4	20M	1745	132322	QPSK	1	0	4xMMMO	Band 7	20M	2655	3100	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	22.79	22.92					
CA_2A-7A-7A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 7	20M	2655	3100	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	22.05	22.18					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 7	20M	2655	3100	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	22.86	23.03					
	Band 7	Ant 1	20M	2535	21100	QPSK	1	0	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	Band 2	1960	900	4xMMMO	22.54	22.74						
	Band 7	Ant 4	20M	2535	21100	QPSK	1	0	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	Band 2	1960	900	4xMMMO	22.72	22.92						
CA_2C-66A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 7	5M	2687.5	3425	4xMMMO	Band 2	5M	2687.5	3425	4xMMMO	21.97	22.18					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 7	5M	2687.5	3425	4xMMMO	Band 2	5M	2687.5	3425	4xMMMO	22.87	23.03					
	Band 66	Ant 1	20M	1745	132322	QPSK	1	0	4xMMMO	Band 7	5M	2687.5	3425	4xMMMO	Band 2	1960	900	4xMMMO	22.57	22.74						
	Band 66	Ant 4	20M	1745	132322	QPSK	1	0	4xMMMO	Band 7	5M	2687.5	3425	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.76	22.92					
CA_4A-4A-5A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1979.8	1098	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.03	22.18					
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	20M	1979.8	1098	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.77	22.97					
	Band 66	Ant 1	20M	1745	132322	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 2	20M	1979.8	1098	4xMMMO	22.06	22.15					
	Band 66	Ant 4	20M	1745	132322	QPSK	1	0	4xMMMO	Band 2	20M	1960	900	4xMMMO	Band 2	20M	1979.8	1098	4xMMMO	22.97	23.15					
CA_4A-4A-7A	Band 4	Ant 1	20M	1732.5	2075	QPSK	1	0	4xMMMO	Band 4	5M	2152.5	2375	4xMMMO	Band 5	10M	881.5	2525	4xMMMO	22.82	22.94					
	Band 4	Ant 4	20M	1732.5	2075	QPSK	1	0	4xMMMO	Band 4	5M	2152.5	2375	4xMMMO	Band 5	10M	881.5	2525	4xMMMO	21.94	22.10					
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	Band 4	5M	2152.5	2375	4xMMMO	22.79	22.94					
	Band 5	Ant 4	10M	836.5	20525	QPSK	1	0	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	Band 4	5M	2152.5	2375	4xMMMO	22.74	22.89					
CA_4A-7A-7A	Band 4	Ant 1	20M	1732.5	2075	QPSK	1	0	4xMMMO	Band 4	5M	2152.5	2375	4xMMMO	Band 7	20M	2655									

4CA DL

Configure	PCC									SCC1					SCC2					SCC3					Power	
	LTE	BW	BW	UL	UL	Mod.	UL/LB	UL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	With CA Tx Power (dBm)	Without CA Tx Power (dBm)
	Band	Ant	(MHz)	Freq. (MHz)	Channel		RB	RB Offset		Band	(MHz)	Freq. (MHz)	Channel		Band	(MHz)	Freq. (MHz)	Channel		Band	(MHz)	Freq. (MHz)	Channel			
CA_2A-2A-4A-5A	Band 2	Ant 1	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	Band 5	10M	881.5	2525		22.75	22.92
	Band 2	Ant 4	20M	1880	1890	QPSK	1	0	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	Band 5	10M	881.5	2525		21.99	22.18
	Band 4	Ant 1	20M	1732.5	20175	QPSK	1	0	4xMMMO	Band 2	20M	1980	900	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 5	10M	881.5	2525		22.80	22.94
	Band 4	Ant 4	20M	1732.5	20175	QPSK	1	0	4xMMMO	Band 2	20M	1980	900	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 5	10M	881.5	2525		21.91	22.10
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 2	20M	1980	900	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	22.75	22.94
	Band 5	Ant 4	10M	836.5	20525	QPSK	1	0		Band 2	20M	1980	900	4xMMMO	Band 2	5M	1987.5	1175	4xMMMO	Band 4	20M	2132.5	2175	4xMMMO	22.76	22.99
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 7	20M	2655	3100	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	22.82	22.94
	Band 5	Ant 4	10M	836.5	20525	QPSK	1	0		Band 7	20M	2655	3100	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	22.74	22.99
CA_5A-7A-66A-66A	Band 7	Ant 1	20M	2535	21100	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	Band 5	10M	881.5	2525		22.93	23.03
	Band 7	Ant 4	20M	2535	21100	QPSK	1	0	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	Band 5	10M	881.5	2525		22.65	22.74
	Band 66	Ant 1	20M	1745	132322	QPSK	1	0	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	Band 5	10M	881.5	2525		Band 7	20M	2655	3100	4xMMMO	22.76	22.97
	Band 66	Ant 4	20M	1745	132322	QPSK	1	0	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	Band 5	10M	881.5	2525		Band 7	20M	2655	3100	4xMMMO	22.01	22.15
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 7	20M	2655	3100	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.78	22.94
	Band 5	Ant 4	10M	836.5	20525	QPSK	1	0		Band 7	20M	2655	3100	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	Band 66	20M	2155	66886	4xMMMO	22.79	22.99
	Band 7	Ant 1	20M	1745	132322	QPSK	1	0	4xMMMO	Band 5	10M	881.5	2525		Band 7	20M	2655	3100	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	22.88	23.03
	Band 7	Ant 4	20M	1745	132322	QPSK	1	0	4xMMMO	Band 5	10M	881.5	2525		Band 7	20M	2655	3100	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	22.82	22.74
CA_7C-66A-66A	Band 66	Ant 1	20M	2535	21100	QPSK	1	0	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 5	10M	881.5	2525		22.80	22.97
	Band 66	Ant 4	20M	2535	21100	QPSK	1	0	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 5	10M	881.5	2525		21.99	22.15
	Band 7	Ant 1	20M	2535	21100	QPSK	1	0	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	22.93	23.03
	Band 7	Ant 4	20M	2535	21100	QPSK	1	0	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	22.96	22.74
	Band 66	Ant 1	20M	1745	132322	QPSK	1	0	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	Band 7	20M	2655	3100	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	22.76	22.97
	Band 66	Ant 4	20M	1745	132322	QPSK	1	0	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	Band 7	20M	2655	3100	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	21.97	22.15
	Band 7	Ant 1	20M	2535	21100	QPSK	1	0	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	22.93	23.03
	Band 7	Ant 4	20M	2535	21100	QPSK	1	0	4xMMMO	Band 7	20M	2554.8	3298	4xMMMO	Band 66	20M	2155	66886	4xMMMO	Band 66	5M	2197.5	67311	4xMMMO	22.96	22.74