

Spectrum Analyz Swept SA	zer 1	Spectrum Analyzer 2 Swept SA	• +			Frequency	- * 湯
KEYSIGHT	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	#Atten: 16 dB Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 Trig: Free Run A WWWW A N N N N	₩ 6.000000000 GHz	Settings
1 Spectrum Scale/Div 10 dB Log	7		Ref LvI Offset 40. Ref Level 28.97 d		Mkr1 7.445 GH -36.786 dB	2 6.0000000 GHz	
19.0 8.97						Full Span Start Freq	
-1.03						3.00000000 GHz Stop Freq 9.00000000 GHz	
-21.0					DL1-19.02 di	AUTO TUNE CF Step	
-41.0	- MA	Marthound		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Mann	600.000000 MHz Auto Man	
-61.0			#Video BW 3.0	MUs	Stop 9.000 G	Freq Offset 0 Hz X Axis Scale	
#Res BW 1.0 M		May 17, 2020 8:10:06 AM			#Sweep ~20.1 s (2000 pr		

Port A, Channel Position M 15.0 MHz









Port A, Channel Position T 15.0 MHz











Spectrum Analyzer 1 Swept SA	Spectrum Analyzer 2 Swept SA	• +			Frequency	- * 崇
KEYSIGHT Input: RF Coupling: Align: Aul	DC Corrections: Off	Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 6 Trig: Free Run A WW WW A N N N N N	Center Frequency 6.000000000 GHz Span	Settings
1 Spectrum Scale/Div 10 dB		Ref LvI Offset 40.97 Ref Level 28.97 dBn		Mkr1 7.451 GHz -37.187 dBm	6.00000000 GHz	
8.97					Full Span Start Freq 3.00000000 GHz	
-1.03				DL1 -19 02 dBm	Stop Freq 9.00000000 GHz	
-31.0					AUTO TUNE CF Step 600.000000 MHz	
-51.0					Auto Man Freq Offset 0 Hz	
Start 3.000 GHz #Res BW 1.0 MHz		#Video BW 3.0 MH	iz	Stop 9.000 GHz #Sweep ~20.1 s (2000 pts)		
1 7 7	May 17, 2020 8:15:56 AM			💵 🔛 🖽 🔀	Signal Track (Span Zoom)	

Port A, Channel Position M 20.0 MHz









Port A, Channel Position T 20.0 MHz

	input: RF Coupling: DC Align: Auto	Input Ζ: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	#Atten: 24 dB Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RN Trig: Free Run	MS <mark>123456</mark> A WWWWW A N N N N N	Center Frequency 1.500001500 GHz Span	Settings
Spectrum cale/Div 10 dE	¥ 3		ef Lvi Offset 40 ef Level 48.60 d			.764 9 GHz 7.875 dBm	2.999999700 GHz Swept Span Zero Span	
							Full Span	
							Start Freq 3.000 kHz	
							Stop Freq 3.000000000 GHz	
							AUTO TUNE	
						DL1 -19.02 dBm	299.999700 MHz	
			and a second second	1		garagen in generating and a star	Freq Offset 0 Hz	
art 3 kHz Res BW 1.0 Mi			#Video BW 3.0	MHz		Stop 3.000 GHz 0.0 s (2000 pts)	X Axis Scale	
1 50		? May 17, 2020 8:19:00 AM					Signal Track (Span Zoom)	1



Configuration LTE-MIMO-2C QPSK

Channel Bandwidth	RBW	Limit
	(MHz)	(dBm)
1.4 MHz	1.0	-19.02
3.0 MHz	1.0	-19.02
5.0 MHz	1.0	-19.02
10.0 MHz	1.0	-19.02





Port A, Channel Position B 1.4 MHz





Port A, Channel Position M 1.4 MHz



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Spectrum Analy Swept SA		Spectrum Analyzer 2 Swept SA	• +			Trace	· * 🛞
	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	#Atten: 16 dB Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 Trig: Free Run A WWW A N N N	Trace 1	
1 Spectrum Scale/Div 10 d	y B	R	ef LvI Offset 40 ef Level 28.97	0.97 dB	Mkr1 7.433 G -37.091 dl		Trace Control Detector
19.0						Trace Average Max Hold	Math
8.97						Min Hold	Trace Function
-11.0					DL1 -19.02	Restart Averaging	Normalize
-21.0					1	Active	
-41.0	m M m		m	\sim	Am	View Blank	
-51.0						Background	
Start 3.000 GH #Res BW 1.0 N			#Video BW 3.0) MHz	Stop 9.000 #Sweep ~20.1 s (2000		
1		May 17, 2020 8:39:44 AM					

Port A, Channel Position T 1.4 MHz









Port A, Channel Position B 3.0 MHz

KEYSIGHT Input: Coupl Align:	ling: DC	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	#Atten: 24 dE Preamp: Off	Gate: (IF Gair	Off	#Avg Type: Powe Trig: Free Run	r(RMS <mark>1</mark> 23456 A WWWW ANNNN	1.50000	requency 1500 GHz	Settings
Spectrum Scale/Div 10 dB	•		Ref LvI Offset Ref Level 48.6			Mkr1	1.757 4 GHz -34.897 dBm	Swe	700 GHz pt Span Span	
								Fu Start Fre	ıll Span	
								3.000 kH	Hz	
B.60 1.40								3.00000	0000 GHz	
							DL1 -19.02 dBm	CF Step	700 MHz	
31.4				- ý	1			Auto Man		
41.4 Hallyungalibungan saman	ن ^ي ور مي الدوا ميافلون _{من}		ور بر دور ور بر در در در در ار ور ور ور ور ور		فاستلديد لطلياتهم الجرا	بار اللوا <mark>ج</mark> هه ب _ا وزراد و در به اروار شور رو		0 Hz X Axis Sc		
tart 3 kHz Res BW 1.0 MHz	2	May 17, 2020 8:43:04 AM	#Video BW	3.0 MHz			Stop 3.000 GHz ~20.0 s (2000 pts	Loa		



Port A, Channel Position M 3.0 MHz



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Spectrum Analy Swept SA	zer 1	Spectrum Analyzer 2 Swept SA	• +			Frequency	亲
	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	#Atten: 16 dB Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 6 Trig: Free Run A **** ******************************	6.000000000 GHz	Settings
1 Spectrum Scale/Div 10 d	y B		ef Lvi Offset 40 ef Level 28.97 c		Mkr1 7.433 GH -37.148 dBm		
19.0						Full Span	
						3.00000000 GHz Stop Freq 9.00000000 GHz	
-21.0					DL1-19.02 dBn		
-41.0	\sim	mm	m	Murrow	Marina Marina	600.000000 MHz Auto Man	
						Freq Offset 0 Hz	
Start 3.000 GH #Res BW 1.0 N			#Video BW 3.0	MHz	Stop 9.000 GH #Sweep ~20.1 s (2000 pts		
1) (? May 17, 2020 8:47:19 AM			👪 👪 🔣	Signal Track (Span Zoom)	

Port A, Channel Position T 3.0 MHz









Port A, Channel Position M 5.0 MHz











Spectrum Analyzer 1 Swept SA	Spectrum Analyzer 2 Swept SA	• +			Frequency	- * 景
KEYSIGHT Input: RF Coupling: DC Align: Auto		#Atten: 16 dB Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS12345 Trig: Free Run A WW WW A N N N N	6.000000000 GHz	Settings
1 Spectrum v Scale/Div 10 dB		f LvI Offset 40.9 f Level 28.97 dB		Mkr1 7.433 GH -37.160 dBi		
19.0					Full Span Start Freq	
					3.00000000 GHz Stop Freq 9.00000000 GHz	
				DL1-19.02 dE	AUTO TUNE	
-41.0	when when her		\sim	Marina	600.000000 MHz Auto Man	
					Freq Offset 0 Hz X Axis Scale	
Start 3.000 GHz #Res BW 1.0 MHz	# May 17, 2020 8:06:04 AM	Video BW 3.0 M	Hz	Stop 9.000 GF #Sweep ~20.1 s (2000 pt	iz Log	_

Configuration NB-IoT-InBand-1C, QPSK

Channel Bandwidth	RBW	Limit
	(MHz)	(dBm)
5.0 MHz	1.0	-19.02

Port A, Channel Position M 5.0 MHz





Spectrum Analyz Swept SA	er 1	Spectrum Analyzer 2 Swept SA	• +			Frequency	- * 😤
	nput: RF Coupling: DC Nign: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	#Atten: 16 dB Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 0 Trig: Free Run A WWWWW A N N N N N	6.000000000 GHz	Settings
1 Spectrum Scale/Div 10 dB	,		tef Lvi Offset 40 tef Level 28.97 d		Mkr1 7.424 GH: -36.901 dBn		
19.0 8.97						Full Span	
-1.03						3.00000000 GHz Stop Freq 9.00000000 GHz	
-21.0					0L1-19.02 dBr	AUTO TUNE	
-41.0	~~	\sim	h	\sim	Mar Market	600.000000 MHz Auto Man	
-61.0						Freq Offset 0 Hz X Axis Scale	
Start 3.000 GHz #Res BW 1.0 MH		? May 17, 2020 9:08:28 AM	#Video BW 3.0	MHz	Stop 9.000 GH #Sweep ~20.1 s (2000 pts	z Loa	

Configuration NB-IoT-GuardBand-1C, QPSK

U		,
Channel Bandwidth	RBW	Limit
Channel Bandwidth	(MHz)	(dBm)
10.0 MHz	1.0	-19.02

Port A, Channel Position M 10.0 MHz

		wept SA Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	#Atten: 24 dB Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track; Off	#Avg Type: Power Trig: Free Run	r (RMS <mark>123456</mark> A WW WW W A N N N N N	Marker Select Marker Marker 1	
Spectrum cale/Div 10 dB	•		ef Lvi Offset 40. ef Level 48.60 d			1.761 9 GHz -36.003 dBm	Marker Frequency 1.761882179 GHz Marker Mode	Settings Peak Search
							 Normal Delta (Δ) Fixed Off Delta Marker (Reset Delta) 	Pk Search Config Properties Marker Function Marker→
1.4 1.4 1.4 1.4	hy product and a setting of the	and the second second	nga Milangana, iniya ng Maning Ma	1	interioration and the second	DL1 -19.02 dBm	Marker Table Off Marker Settings Diagram All Markers Off	Counter
art 3 kHz Res BW 1.0 MHz			#Video BW 3.0	MHz	#Sweep	Stop 3.000 GHz ~20.0 s (2000 pts)		



KEYSIGHT Input: RF

Align: Auto

pt SA

ut Z: 5

				1	CAICT No.120Z60238-WMD02
• +			Č Trace	- * 条	
#Atten: 16 dB Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	1 2 3 4 5 6 A WW WW W A N N N N N	Select Trace Trace 1		
Ref Lvi Offset Ref Level 28.9		442 GHz 769 dBm	Trace Type Clear / Write	Trace Control Detector	
			Trace Average	Math	
			Max Hold	Trace	
			Min Hold	Function Normalize	

1 Spectrum	•		Re	f Lvi Offset	40.97 dB			.442 GHz	Clear / Write	Control
Scale/Div 10 dB			Re	f Level 28.9)7 dBm		-36.	769 dBm		Detecto
19.0									Trace Average	
									Max Hold	Math
-1.03									Min Hold	Trace Function
-11.0									Restart Averaging	Normali
-21.0								DL1 -19.02 dBm	View/Blank	
-31.0						<u>1 –</u>			Active	
						. ∕.		~	View	
-51.0	/wh	and the second second	and the feature		$\sim \sim$		\sim	\sim	Blank	
-61.0									Background	
									/ Trace Settings	
Start 3.000 GHz #Res BW 1.0 MHz			#	Video BW	3.0 MHz	#Sv		op 9.000 GHz s (2000 pts)		
100		? May 1 9:46	7, 2020 20 AM					H 🗙		

Configuration NB-IoT-StandAlone-1C, QPSK

Channel Bandwidth	RBW (MHz)	Limit (dBm)	
250 KHz	1.0	-16.01	

Port A, Channel Position B







LTE & LTE-4 Modulation 4		Spectrum Analy Swept SA	zer 2 Spe Swe	ctrum Analyzer pt SA	¹³ , s	Spectrum Ana	lyzer 4	+ >	₽	Trace	- 7 ※
	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: C Freq Ref: Ext NFE: Adaptive	(S)		Dff I: Low	#Avg Type: F Trig: Free Ri	un	1 2 3 4 5 6 A WWWWW A N N N N N	Select Trace Trace 1		
1 Spectrum Scale/Div 10 dl	₹ B		Ref Lvi Offse Ref Level 28	et 40.97 dB				433 GHz 748 dBm	Trace Type Clear / \		Trace Control Detector
19.0									Trace A Max Ho		Math
8.97 -1.03									Min Hol	d	Trace Function
-11.0								DL1 -16.01 dBm	Restart A View/Blank	veraging	Normalize
-21.0						<u>_</u> 1			Active		
-41.0	-	~~~~	mm	\sim	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	\sim	~~^	\mathcal{M}	ViewBlank		
-61.0									Backgro		
Start 3.000 GH: #Res BW 1.0 M			#Video BW	(3.0 MHz			veep ~20.1	p 9.000 GHz s (2000 pts)	🔨 Tal		
1 N		May 20, 20: 1:05:02 PM									

Port A, Channel Position M

LTE & LTE-A Modulation A		Spectrum Ana Swept SA		Spectrum Analy Swept SA		Spectrum Anal Swept SA	yzer 4	+)	Marke	r v 👯
	Input: RF Coupling: DC Align: Auto	Input Z: 50 Corrections Freq Ref: E NFE: Adapt	Off Preamp xt (S)	:Off Gat): Fast ∋: Off ain: Low Track: Off	#Avg Type: P Trig: Free Ru	n 7	2 3 4 5 6 WWWWW A N N N N N	Select Marker Marker 1	
1 Spectrum Scale/Div 10 dB	т В			0ffset 40.60 dB I 48.60 dBm		Mł		3 4 GHz 25 dBm	Marker Frequency 1.763382927 GHz Marker Mode	Settings Peak Search
38.6 28.6									 Normal Delta (Δ) 	Pk Search Config
18.6 8.60									Fixed	Properties Marker Function
-1.40								0L1 -16.01 dBm	Delta Marker (Reset Delta) Marker Table	Marker→ Counter
-21.4					Â1			2, T - 10, OT GDIII	On Off Marker Settings	
-41.4	an a	A	unan an	مەرىكەن ئەتلەر يەتلەر تەرىپەردە رايانى ئەتلەر ئە		فالمعوديا ويتحافظ والمعلوي ومعتو	ميروي المراجع ا	Mentalenter and	All Markers Off	
Start 3 kHz #Res BW 1.0 M		? May 20, 2 1:06:48 F	020	BW 3.0 MHz		#Sw	eep ~20.0 s	3.000 GHz (2000 pts)	Couple Markers On Off	







Port A, Channel Position T

LTE & LTE- Modulation		Spectrum Analyz Swept SA	er 2 , Spectrun Swept S/	n Analyzer 3 A	Spectrum Analyzer 4 Swept SA	+	Marker	- * 詳
KĖYSIGHT	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Of Freq Ref: Ext (NFE: Adaptive		PNO: Fast Gate: Off IF Gain: Low Sig Track: Off		1 2 3 4 5 6 A WWWWW A N N N N N	Select Marker Marker 1	
1 Spectrum Scale/Div 10 c	, iB	in L. Pauporo	Ref LvI Offset 40 Ref Level 48.60 c	.60 dB	Mkr1 1.78		Marker Frequency 1.787394909 GHz Marker Mode	Settings Peak Search
38.6							 Normal Delta (Δ) 	Pk Search Config
28.6							Fixed	Properties Marker Function
8.60 -1.40							Off Delta Marker (Reset Delta)	Marker→
-11.4						0L1 -16.01 dBm	Marker Table On Off	Counter
-31.4 -41.4		and the second	ورومها وماليه والمحافظة ومحافظة والمحافظة وواقدقا ومحافة ومحافظة ومحافظة وواقدقا ومحافظة والمحافظة ومحافظة وواقضة وواقضة وواقضة و		ىيىدۇھىرىمەمىنىقىلەر يېرىدىمەمەتچىرىمارىيىدىق	Hallonnon and a start	Marker Settings Diagram All Markers Off	
Start 3 kHz #Res BW 1.0 M			#Video BW 3.0	MHz	Sto #Sweep ~20.0	p 3.000 GHz s (2000 pts)	Couple Markers	
1	2	May 20, 202 1:09:21 PM				HX		



Configuration NB-IoT-StandAlone-2C, QPSK

Channel Bandwidth	RBW (MHz)	Limit (dBm)	
250 KHz	1.0	-16.01	





Port A, Channel Position M

LTE & LTE- Modulation	Analysis	Spectrum Analyze Swept SA	Spectrun Swept S/	n Analyzer 3 A	Spectrum Analyzer 4 Swept SA	+	Marker	- * 崇
	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 24 dB Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off		1 2 3 4 5 6 A WWWWW A N N N N N	Select Marker Marker 1	
1 Spectrum Scale/Div 10 c	, iB		Ref LvI Offset 40 Ref Level 48.60 c	.60 dB	Mkr1 1.76 -34.7	63 4 GHz 765 dBm	Marker Frequency 1.763382927 GHz Marker Mode	Settings Peak Search
38.6							 Normal Delta (Δ) 	Pk Search Config
28.6							Fixed	Properties Marker Function
-1.40							Off Delta Marker (Reset Delta)	Marker→
-11.4 -21.4						DL1 -16.01 dBm	Marker Table On Off	Counter
-31.4		Numeron Selan		1 	باستلقتهم ومناومتهم ومتور بالمحالب وماورتهم	An de la carrie a carriera	Marker Settings Diagram All Markers Off	
Start 3 kHz #Res BW 1.0 M			#Video BW 3.0	MHz	Stop #Sweep ~20.0	p 3.000 GHz s (2000 pts)	Couple Markers On Off	
1 5		May 20, 2020 1:15:02 PM	\square			HX		



Configuration WCDMA+LTE-MIMO-MC-1 (1WCDMA QPSK +1LTE QPSK)

Channel Bandwidth	RBW (MHz)	Limit (dBm)
W: 5.0 MHz L: 1.4 MHz	1.0	-19.02
W: 5.0 MHz L: 3.0 MHz	1.0	-19.02
W: 5.0 MHz L: 5.0 MHz	1.0	-19.02
W: 5.0 MHz L: 10.0 MHz	1.0	-19.02
W: 5.0 MHz L: 15.0 MHz	1.0	-19.02
W: 5.0 MHz L: 20.0 MHz	1.0	-19.02

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Port A, Channel Position M, LTE 1.4 MHz





Port A, Channel Position M, LTE 3.0 MHz





ept SA otrum Analyzer 2 pt SA Ċ • + Trace #Avg Type: Power (RMS 1 2 3 4 5 Trig: Free Run Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive PNO: Fast Gate: Off IF Gain: Low Sig Track: Off KEYSIGHT Input: RF #Atten: 16 dB Preamp: Off Select Trace Trace 1 Align: Auto ANNNN Trace Type Mkr1 7.448 GH -36.370 dBr Ref LvI Offset 40.97 dB Ref Level 28.97 dBm Clear / Write Scale/Div 10 dB Detector Trace Average Math Max Hold Trace Function Min Hold Normalize Restart Averaging ew/Blank Active **1** View Blank Background C Trace Setti Table #Video BW 3.0 MHz Stop 9.000 GHz eep ~20.1 s (2000 pts) art 3.000 GHz tes BW 1.0 MHz #Sv モアペロ ? May 17, 2020 💬

Port A, Channel Position M, LTE 5.0 MHz





No.I20Z60238-WMD02