

#### Configuration LTE-MIMO-2C QPSK

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

#### Port B, Channel Position M 5.0 MHz



EYSIGHT Input: RF L Coupling: DC Align: Auto	Corrections: Off F Freq Ref: Ext (S)	Preamp: Off Gat W Path: Standard IF C	e. Oli Gain: Low		Marke 3 4 5 6 Select Marker WWWW Marker 1	
Spectrum v cale/Div 10 dB		ig f Lvi Offset 42.83 dE f Level 21.50 dBm	Track: Off	Mkr1 4.39	4 GHz 3 dBm Marker Frequency 4.393696848 GHz	Settings Peak
og 11.5					Normal	Search Pk Searc Config
					Delta (Δ)	Properti
				DL1 -	<u>-19.02 dBm</u> Off	Function
	1	~~~~~			Delta Marker (Reset Delta) Marker Table	Counter
3.5					On Off Marker Settings	
					All Markers Off	
nrt 3.000 GHz es BW 1.0 MHz	#	Video BW 3.0 MHz		Stop 10. #Sweep 20.0 s (2		1

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RL Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 0 dB Preamp: Off µW Path: Standar	PNO: Fast Gate: Off rd IF Gain: High Sig Track: Off	#Avg Type: Power (R Trig: Free Run	MS <mark>123456</mark> WWWWWW ANNNNN	Select Marker Marker 1	
Spectrum V	R	ef Lvi Offset 49	.90 dB		21.598 GHz		Settings
scale/Div 10 dB ₋og	R	ef Level 27.07 d	IBM		-34.64 dBm	Marker Mode	Peak Search
						<ul> <li>Normal</li> </ul>	Pk Searc Config
						Delta (Δ)	Propertie
						Fixed	Marker
						Off	Function
					DL1 -19.02 dBm	Delta Marker (Reset Delta)	Marker-
42.9						Marker Table On Off	Counter
						Marker Settings Diagram	
						All Markers Off	
tart 10.000 GHz Res BW 1.0 MHz		#Video BW 3.0	MHz		Stop 22.000 GH2 20.0 s (2000 pts		

#### Port B, Channel Position M 10.0 MHz



WEPT SA	Input Z: 50 Ω	#Atten: 6 dB	PNO: Fast	#Avg Type: Power (RMS		Marker	
Coupling: E	C Corrections: Off	Preamp: Off	Gate: Off	Trig: Free Run	123450 wwwww	Select Marker Marker 1	
Align: Auto	Freq Ref: Ext (S) NFE: Adaptive		IF Gain: Low Sig Track: Off		ANNNN	Marker	_
Spectrum v				Mkr1	4.390 GHz	Marker Frequency	Settings
cale/Div 10 dB		Ref LvI Offset 42.83 Ref Level 21.50 dB			4.15 dBm	4.390195098 GHz	Peak
og						Marker Mode	Search
1.5						Normal	Pk Sear
						Delta (Δ)	Config
							Properti
						Fixed	Marker
8.5					DL1 -19.02 dBm	Off	Function
						-	Marker-
	<b>↓</b> 1					Delta Marker (Reset Delta)	
8.5	man	$\sim\sim\sim\sim$	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~	Marker Table	Counter
8.5						On Off	
						/ Marker Settings	
						Diagram	
						All Markers Off	1
						Couple Markers	4
art 3.000 GHz les BW 1.0 MHz		#Video BW 3.0 MI	Hz		op 10.000 GH; 0 s (2000 pts	On	

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RL Align: Auto	Input Z: 50 Ω #Atten: 0 dB PNO: F Corrections: Off Preamp: Off Gate: C Freq Ref: Ext (S) μW Path: Standard IF Gain NFE: Adaptive Sig Tra	Trig: Free Run WWWWW Marker	1
I Spectrum v	Ref Lvi Offset 49.90 dB Ref Level 27.07 dBm	Marker	Frequency 786893 GHz Peak
Log	EVideo BW 3.0 MHz	CL119 C 40	Mode Search mai Pk Search a (Δ) Propertie d Marker function ta Marker seet Deita) Table ker Settings Jagram Markers Off Markers
	Jul 11, 2018	#Sweep 20.0 s (2000 pts)	

#### Port B, Channel Position M 15.0 MHz



Spectrum Analyz Swept SA	zer 1 💡 🖡	F					Marker	· *
	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 6 dB Preamp: Off µW Path: Standa	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS Trig: Free Run	5 <mark>123456</mark> WWWWWW ANNNNN	Select Marker Marker 1	
1 Spectrum	•	R	tef Lvl Offset 42	2.83 dB		4.387 GHz	Marker Frequency 4.386693347 GHz	Settings
Scale/Div 10 dE	B	F	tef Level 21.50	dBm		35.18 dBm	Marker Mode	Peak Search
							Normal	Pk Search Config
							Delta (Δ)	Properties
-8.50						DL1 -19.02 dBm	Fixed	Marker Function
-28.5							Delta Marker	Marker→
-38.5	mi					~~~~	(Reset Delta) Marker Table	Counter
-48.5							On Off	
							Marker Settings Diagram	
							All Markers Off	
Start 3.000 GHz #Res BW 1.0 M			#Video BW 3.0	MHz		op 10.000 GHz .0 s (2000 pts	On	
<b>1</b> 50	2 2 ?	Jul 11, 2018 9:21:18 AM					Off	

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LL COUPLING: Auto	Input Z: 50 Ω #Atten: 0 dB PNO. F Corrections: Off Preamp: Off Gate: C Freq Ref: Ext (S) μW Path: Standard IF Gain NFE: Adaptive Sig Tra	f Trig: Free Run	Marker 1
Spectrum v	Ref Lvi Offset 49.90 dB Ref Lvi Offset 27.07 dBm	Mkr1 21.586 GH -34.29 dBr	Marker Frequency Settings 21.585792896 GHz
00 00 00 00 00 00 00 00 00 00 00 00 00	#Video BW 3.0 MHz	0(1-19-02-dB	Marker Mode Search Normal Pk Searc Onfig Delta (Δ) Propertie Fixed Marker Off Marker (Reset Delta) Off Courter Off Marker Table Off Marker Settings Diagram All Markers Off

#### Port B, Channel Position M 20.0 MHz



Spectrum Analyzer 1 Swept SA	+				Marker	- *
RL Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 Trig: Free Run A N N N N	Marker 1	,
1 Spectrum v Scale/Div 10 dB	F	Ref LvI Offset 42.83	3 dB	Mkr1 4.380 GH -36.06 dBi	Marker Frequency 4.379689845 GHz	Settings
Log		Ref Level 21.50 dB	m	-38.06 dBi	Marker Mode	Peak Search Pk Search
					Deita (Δ)	Config
					Fixed	Properties Marker
				DL1 -19.02 dE	e Off	Function Marker→
-28.5	1				Delta Marker (Reset Delta)	Counter
-48.5					Marker Table On Off	Counter
					Marker Settings Diagram	
					All Markers Off	
Start 3.000 GHz #Res BW 1.0 MHz		#Video BW 3.0 MI	Hz	Stop 10.000 Gł #Sweep 20.0 s (2000 pt		
4 n C	<b>?</b> Jul 11, 2018 9:24:56 AM	$\bullet \triangle$				

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KEYSIGHT Input: RF RL Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 0 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: High Sig Track: Off		456 ////////////////////////////////////	Select Marker Marker 1	
I Spectrum v	R	tef LvI Offset 49.9 tef Level 27.07 dB	0 dB	Mkr1 21.568 -34.33		Marker Frequency 21.567783892 GHz	Settings Peak
17.1						Marker Mode Normal Delta (Δ)	Search Pk Searc Config
				DL1 -1	9.02 dBm	Fixed	Propertie Marker Function
22.9 32.9 42.9					1	Delta Marker (Reset Delta) Marker Table On Off	Marker– Counter
						Marker Settings Diagram All Markers Off	
tart 10.000 GHz Res BW 1.0 MHz		#Video BW 3.0 M	Hz	Stop 22.0 #Sweep 20.0 s (20		Couple Markers On Off	

### Configuration LTE-MIMO-6C QPSK

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

#### Port B, Channel Position M 5.0 MHz

KEYSIGHT Input: RF L Coupling: DC Align: Auto	Input Z: 50 Q #Atten: 22 dB Corrections: Off Preamp: Off Freq Ref: Ext (S) µW Path: Stand NFE: Adaptive	PNO: Fast Gate: Off lard IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 Trig: Free Run	Marker 1	
1 Spectrum v Scale/Div 10 dB	Ref Lvi Offset 4 Ref Level 41.43	1.33 dB	Mkr1 2.663 8 -25.84 (	GHz 2.663818272 GHz	Settings Peak
31.4 21.4 21.4 11.4 5.7 18.6 28.6 38.6 48.6 54art 3 kHz Res BW 1.0 MHz	FVideo BW 3.		Stop 3.00 #Sweep 20.0 s (200	Marker Mode Normal Delta (Δ) Fixed Off Oelta Marker (Reset Delta) Marker Table Of All Markers Off Off Couple Markers	Search Pk Searc Config Propertie Marker Function Marker→ Counter

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KEYSIGHT Input: RF RL Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 6 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Pov Trig: Free Run	w	2 3 4 5 6	Select Marker Marker 1	
I Spectrum v Scale/Div 10 dB		Ref LvI Offset 42.8 Ref Level 21.50 dB		N		387 GHz .00 dBm		Settings Peak
.og 11.5							Marker Mode Normal	Search Pk Searcl Config
							Delta (Δ) Fixed	Propertie
					D	1 <u>L1 -19.02 dBm</u>	Off	Marker Function Marker→
8.5	1						Delta Marker (Reset Delta)	Marker→ Counter
18.5							Marker Table On Off	Counter
							Marker Settings Diagram	
							All Markers Off Couple Markers	
Start 3.000 GHz Res BW 1.0 MHz		#Video BW 3.0 M	Hz	#Sw		10.000 GH; (2000 pts	On Off	

Spectrum Analyzer 1	+						Marker 🔻 🛃
KEYSIGHT Input: RF RL	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive		PNO: Fast Gate: Off IF Gain: High Sig Track: Off	#Avg Type: Pow Trig: Free Run	rer (RMS 1 2 3 4 5 6 W W W W W A N N N N N		
Spectrum v	F	Ref LvI Offset 49.9	0 dB	Mk	r1 21.586 GH		6 GHz
cale/Div 10 dB	•	Ref Level 27.07 dB	m		-34.14 dBn	Marker Mode	Peak Search
						<ul> <li>Normal</li> </ul>	Pk Searci Config
						Delta (Δ)	Propertie
						Fixed	Marker
					DL1 -19.02 dBn	Off	Function
					.1	Delta Ma (Reset D	
2.9	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				~	Marker Table On	Counter
						Off	
						Marker Se Diagra	
						All Marke	
tart 10.000 GHz Res BW 1.0 MHz		#Video BW 3.0 M	Hz	#Swe	Stop 22.000 GH eep 20.0 s (2000 pts		ers
	<b>?</b> Jul 11, 2018 9:43:23 AM	• A					

Port B, Channel Position M 10.0 MHz

EYSIGHT Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 22 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Po Trig: Free Run	wer (RMS <mark>123456</mark> WWWWWW ANNNNN		
Spectrum v cale/Div 10 dB	F	Ref LvI Offset 41.3 Ref Level 41.43 dB	3 dB	Mk	r1 2.659 3 GHz -25.81 dBm		Settings Peak
og 1.4				A N		Normal	Search Pk Searc Config
						Celta (Δ) Fixed	Propertie Marker Function
57					<u>mi 1-19.02 dBn</u>	Delta Marker (Reset Delta) Marker Table	Marker– Counter
3.6						On Off Marker Settings	
						Diagram All Markers Off	
art 3 kHz les BW 1.0 MHz		#Video BW 3.0 M	Hz	#Sw	Stop 3.000 GH; reep 20.0 s (2000 pts		

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KEYSIGHT RL Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Pow Trig: Free Run	ver (RMS <mark>123456</mark> W <del>WWWW</del> ANNNNN		
I Spectrum v Scale/Div 10 dB		Ref LvI Offset 42.8 Ref Level 21.50 dB		М	kr1 3.802 GHz -36.67 dBm		Settings Peak
11.5						Marker Mode Normal Delta (Δ)	Search Pk Searci Config
					DL1 -19.02 dBn	Fixed Off	Propertie Marker Function
28.5 38.5 48.5						Delta Marker (Reset Delta) Marker Table Off	Marker→ Counter
						Marker Settings Diagram	
art 3.000 GHz Res BW 1.0 MHz		#Video BW 3.0 M	Hz	#Sw/	Stop 10.000 GH; eep 20.0 s (2000 pts		

pectrum Analyzer 1	+						Marker 🔻 🛃
KEYSIGHT Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive		PNO: Fast Gate: Off IF Gain: High Sig Track: Off	#Avg Type: Pow Trig: Free Run	er (RMS <mark>123456</mark> WWWWWW ANNNNN		
Spectrum v		Ref LvI Offset 49.9	0 dB	Mk	r1 21.604 GH		1 GHz
cale/Div 10 dB		Ref Level 27.07 dB	m		-34.14 dBm	Marker Mode	Peak Search
						Normal	Pk Searci Config
						Delta (∆)	Propertie
2.9						Fixed	Marker Function
2.9					DL1 -19.02 dBm	Delta Ma	Marker→
2.9					<b>≬</b> 1	(Reset D Marker Table	
2.9	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	·····				On Off	
						Marker Se Diagra	
						All Marke	
art 10.000 GHz Res BW 1.0 MHz		#Video BW 3.0 M	Hz	#Swe	Stop 22.000 GH: eep 20.0 s (2000 pts		ers
	<b>?</b> Jul 11, 2018 9:46:57 AM	) ()					

Port B, Channel Position M 15.0 MHz

EYSIGHT Input: RF L	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 22 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Trig: Free R	ľ	23456 WWWWW NNNNN		
Spectrum v cale/Div 10 dB	F	Ref LvI Offset 41.3 Ref Level 41.43 dE		N	Akr1 2.65 -25	i3 3 GHz .87 dBm		Settings Peak
<b>bg</b> 1.4							Marker Mode Normal	Search Pk Searc
				<b>, 111</b>			Delta (∆)	Config Propertie
							Fixed	Marker Function
							Delta Marker (Reset Delta)	Marker-
.6					,	1 <u>1 -19.02 dBm</u>	Marker Table On	Counter
1.6							Off Marker Settings Diagram	
							All Markers Off	
nrt 3 kHz es BW 1.0 MHz		#Video BW 3.0 N	IHz	#	Stop Sweep 20.0 s	o 3.000 GH; s (2000 pts		

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KEYSIGHT Input: RF RL Align: Au	DC Corrections: Of		PNO: Fast Gate: Off I IF Gain: Low Sig Track: Off		23456 WWWWW NNNNN	Select Marker Marker 1	
1 Spectrum		Ref Lvi Offset 42.8		Mkr1 4.0		Marker Frequency 4.061030515 GHz	Settings
cale/Div 10 dB		Ref Level 21.50 de	3m	-36.0	65 dBm	Marker Mode	Peak Search
						<ul> <li>Normal</li> </ul>	Pk Searc
						Delta (Δ)	Config Propertie
						Fixed	Marker
				DL	<u>1 -19.02 dBm</u>	Off	Function
8.5	,1					Delta Marker (Reset Delta)	Marker
18.5	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~			~	Marker Table On Off	Counter
						Marker Settings Diagram	
						All Markers Off	
tart 3.000 GHz Res BW 1.0 MHz		#Video BW 3.0 N	ſHz	Stop 1 #Sweep 20.0 s	0.000 GH; (2000 pts	Couple Markers On Off	1

EYSIGHT Input: RF L Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 0 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: High Sig Track: Off	#Avg Type: Power (R Trig: Free Run	MS <mark>123456</mark> W <del>WWWW</del> ANNNNN	Select Marker Marker 1	
Spectrum v cale/Div 10 dB		Ref LvI Offset 49.9 Ref Level 27.07 dB	0 dB		21.604 GHz -34.13 dBm		Settings Peak
og 7.1 .07 .93 .29						Normal Delta (Δ) Fixed Off	Search Pk Searc Config Propertie Marker Function
2.9					DL1 -19.02 dBm	Delta Marker (Reset Delta) Marker Table On Off	Marker– Counter
2.9 2.9 art 10.000 GHz les BW 1.0 MHz		#Video BW 3.0 M	Hz		top 22.000 GHz	All Markers Off Couple Markers Off	

# Configuration LTE-MIMO-4C QPSK

Channel Dandwidth	RBW	Limit
Channel Bandwidth	(MHz)	(dBm)
20.0 MHz	1.0	-19.02



#### Port B, Channel Position M 20.0 MHz

EYSIGHT Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 22 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: I Trig: Free R	Power (RMS 1 2 3 4 5 6 un W W W W W A N N N N N		
Spectrum v cale/Div 10 dB	R	tef LvI Offset 41.3 tef Level 41.43 dE	3 dB	N	lkr1 2.650 3 GHz -25.85 dBm	2.0000 THOOL OT L	Settings Peak
1.4				<b>mm</b>		Marker Mode Normal	Search Pk Searc Config
1.4						Delta (Δ) Fixed	Propertie
						off	Marker Function Marker→
57 3.6 3.6					<sup>ni</sup> <u>1 -19.02 dBm</u>	Delta Marker (Reset Delta) Marker Table On Off	Counter
3.6						Marker Settings Diagram All Markers Off	
art 3 kHz es BW 1.0 MHz		#Video BW 3.0 N	IHz	#	Stop 3.000 GH Sweep 20.0 s (2000 pts	Couple Markers	

Spectrum Analy Swept SA	/zer 1	+					Marker	- *
	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 6 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power Trig: Free Run	(RMS123456) WWWWWW ANNNNN	Select Marker Marker 1	
1 Spectrum Scale/Div 10 d	v B	R	tef LvI Offset 42.8 tef Level 21.50 dB		Mkr	1 3.798 GHz -36.67 dBm		Settings Peak
11.5							Marker Mode <ul> <li>Normal</li> </ul>	Search Pk Search Config
-8.50							Delta (Δ)	Properties
-18.5						DL1 -19.02 dBm	Off	Marker Function Marker→
-28.5		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				~~~~~	Delta Marker (Reset Delta) Marker Table	Counter
-48.5							On Off Marker Settings Diagram	
-68.5							All Markers Off	
Start 3.000 GH #Res BW 1.0 N			#Video BW 3.0 M	Hz	#Sweep	Stop 10.000 GH; 20.0 s (2000 pts	Couple Markers On Off	
<b>エ</b> ッ (		Jul 11, 2018 10:06:16 AM						

Spectrum Analyzer 1 Swept SA	<b>·</b> +					Marker	· · 宗
RL Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 0 dB PNO: Preamp: Off Gate: µW Path: Standard IF Ga Sin Tr	Off	#Avg Type: Power (RMS Trig: Free Run	5 <mark>1</mark> 23456 WWWWWW ANNNNN	Select Marker Marker 1	
1 Spectrum 🔻		Ref Lvi Offset 49.90 dB			1.586 GHz 34.13 dBm	Marker Frequency 21.585792896 GHz	Settings
Scale/Div 10 dB		Ref Level 27.07 dBm		^	54.13 GBH	Marker Mode	Peak Search Pk Search
7.07						Delta (Δ)	Config
						Fixed	Properties Marker
					DL1 -19.02 dBm	Off	Function Marker→
-22.9					<b>↓</b> 1	Delta Marker (Reset Delta)	Counter
-42.9						Marker Table On Off	
						Marker Settings Diagram	
						All Markers Off	
Start 10.000 GHz #Res BW 1.0 MHz		#Video BW 3.0 MHz			op 22.000 GHz .0 s (2000 pts	Couple Markers On Off	
<b>1</b> 2 2	<b>?</b> Jul 11, 2018 10:06:41 AM						

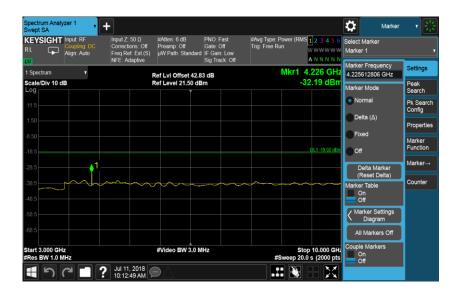


#### Configuration NB-IoT-InBand-1C, QPSK

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

#### Port B, Channel Position B 5.0 MHz





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RL Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S NFE: Adaptive	#Atten: 0 dB Preamp: Off ) µW Path: Standar	PNO: Fast Gate: Off d IF Gain: High Sig Track: Off	#Avg Type: Power (RMS 1 2 3 Trig: Free Run W WW A N N		elect Marker larker 1	
I Spectrum v Scale/Div 10 dB		Ref LvI Offset 49. Ref Level 27.07 d		Mkr1 21.580 -34.13	GH <sub>2</sub> 2	larker Frequency 1.579789895 GHz larker Mode	Settings Peak
-og 17.1						Normal	Search Pk Searc Config
						Delta (Δ)	Propertie
						Fixed	Marker Function
				DL1 -19	9.02 dBm	Delta Marker (Reset Delta)	Marker-
42.9					<u></u>	larker Table On Off	Counter
						/ Marker Settings Diagram	
						All Markers Off	
tart 10.000 GHz Res BW 1.0 MHz		#Video BW 3.0	MHz	Stop 22.00 #Sweep 20.0 s (20	UU GH	ouple Markers On Off	

#### Port B, Channel Position M 5.0 MHz



Spectrum Analyzer 1 Swept SA	+				Marker	· · · 😤
RL Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	#Atten: 6 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 Trig: Free Run A N N N N	W Marker 1	
Dor 1 Spectrum V		Ref LvI Offset 42.8	3 dB	Mkr1 4.289 G	Marker Frequency 4.288644322 GHz	Settings
Scale/Div 10 dB		Ref Level 21.50 dB	lm	-30.73 dE	Marker Mode	Peak Search
					<ul> <li>Normal</li> <li>Delta (Δ)</li> </ul>	Pk Search Config
8.50					Fixed	Properties
18.5				DL1-19.02		Marker Function
28.5					Delta Marker	Marker→
38.5	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~			(Reset Delta) Marker Table	Counter
					On Off	
					Marker Settings Diagram	
					All Markers Off	
Start 3.000 GHz Res BW 1.0 MHz		#Video BW 3.0 M	IHz	Stop 10.000 0 #Sweep 20.0 s (2000 p		
	? Jul 20, 2018 1:42:27 PM					

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RL Align: Auto	Input Z: 50 Ω #Atten: 0 dB Corrections: Off Preamp: Off Freq Ref: Int (S) μW Path: Stan NFE: Adaptive	PNO: Fast Gate: Off dard IF Gain: High Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 Trig: Free Run	WW Marker 1	
I Spectrum 🔻	Ref LvI Offset	49.90 dB	Mkr1 21.592 G	Marker Frequency Hz 21.591795898 GHz	Settings
cale/Div 10 dB	Ref Level 27.07	dBm	-34.15 dl	Marker Mode	Peak Search
				<ul> <li>Normal</li> </ul>	Pk Searc Config
				Delta (Δ)	Propertie
				Fixed	
				Off	Marker Function
22.9			DL1 -19.02	dBrr Delta Marker	Marker-
32.9				1 (Reset Delta)	Counter
42.9				Marker Table On Off	Counter
				Marker Settings Diagram	
				All Markers Off	
tart 10.000 GHz Res BW 1.0 MHz	#Video BW 3	.0 MHz	Stop 22.000 #Sweep 20.0 s (2000		1

### Port B, Channel Position T 5.0 MHz

Spectrum Analyze Swept SA		-					Marker	- 湯
	nput: RF coupling: DC Jign: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	#Atten: 22 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off I IF Gain: Low Sig Track: Off	#Avg Type: Power Trig: Free Run	r (RMS <mark>123456</mark> W W W W W A N N N N N		
1 Spectrum Scale/Div 10 dB	Ŧ	F	tef Lvi Offset 41.3 tef Level 41.43 dE	33 dB	Mkr1	2.642 8 GHz -25.74 dBm		Settings Peak Search
							<ul> <li>Normal</li> <li>Delta (Δ)</li> </ul>	Pk Search Config
							Fixed	Properties Marker
							Off Delta Marker	Function Marker→
-18.6						1 <u>-19.02 dBm</u>	(Reset Delta) Marker Table On Off	Counter
-38.6							Marker Settings Diagram	
Start 3 kHz #Res BW 1.0 MH	_		#Video BW 3.0 N	1Hz	#Sturos	Stop 3.000 GH; p 20.0 s (2000 pts	On	
	2	Jul 20, 2018 1:44:45 PM				9 20.0 s (2000 pts No	Off	

KEYSIGHT Input: RF RL Coupling: Alian: Aut		#Atten: 6 dB PNO: Preamp: Off Gate:	Off Ing: F	Type: Power (RMS 1 2 3 4 5 Free Run		
Align: Aut	p Freq Ref: Int (S) NFE: Adaptive		in: Low rack: Off	ANNN	N	
Spectrum v		Ref LvI Offset 42.83 dB		Mkr1 4.355 GH		Settings
cale/Div 10 dB		Ref Level 21.50 dBm		-27.50 dB	Marker Mode	Peak Search
					<ul> <li>Normal</li> </ul>	Pk Searc
					Delta (Δ)	Config
						Properti
					Fixed	Marker
				DL1 -19.02 df	in Out	Function
	- <u> </u>				Delta Marker	Marker-
8.5				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	(Reset Delta) Marker Table	Counter
					On	
					/ Marker Settings	
					Diagram	
					All Markers Off	
art 3.000 GHz tes BW 1.0 MHz		#Video BW 3.0 MHz		Stop 10.000 G #Sweep 20.0 s (2000 p		1

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RL Align: Auto	Input Z: 50 Ω #Atten: 0 dB PNO: Fast Corrections: Off Preamp: Off Gate: Off Freq Ref: Int (S) μW Path: Standard IF Gain: H NFE: Adaptive Sig Track	Trig: Free Run WWWWW Marker 1
I Spectrum v	Ref Lvi Offset 49.90 dB Ref Level 27.07 dBm	Mkr1 21.610 GHz -34.17 dBm
<b>17</b> .1 7.07 2.93 12.9		Marker Mode Search Normal Pr Search Onig Deita (Δ) Proper Fixed Marke Off Marker
42 9 42 9 52 9 52 9 52 9 52 9 52 9		Delta Marker (Reset Delta) Marker Table On Orf Marker Settings Diagram All Markers Off
tart 10.000 GHz Res BW 1.0 MHz	#Video BW 3.0 MHz	Stop 22.000 GH; #Sweep 20.0 s (2000 pts On On

#### Port B, Channel Position B 10.0 MHz



Spectrum Analyzer 1 Swept SA	+					Marker	- * ※
RL Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 6 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off		23456 WWWWW NNNNN	Select Marker Marker 1	
1 Spectrum	F	Ref LvI Offset 42.8	3 dB		229 GHz .95 dBm	Marker Frequency 4.229114557 GHz	Settings
Scale/Div 10 dB Log 11.5		Ref Level 21.50 dB	im		95 GBI	Marker Mode  Normal	Peak Search Pk Search
						Delta (Δ) Fixed	Config Properties
18.5				C	IL1 -19.02 dBm	Off	Marker Function
28.5						Delta Marker (Reset Delta)	Marker→ Counter
48.5					~~~~	Marker Table On Off	Counter
						Marker Settings Diagram	
Start 3.000 GHz		#Video BW 3.0 M	Hz		10.000 GH2	All Markers Off Couple Markers On	
#Res BW 1.0 MHz	Jul 11, 2018	$\mathbb{D}$		#Sweep 20.0 s	(2000 pts	Off	

## No.I18Z61058-WMD02 Page164of233



RL Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S NFE: Adaptive	#Atten: 0 dB Preamp: Off ) μW Path: Standar	PNO: Fast Gate: Off d IF Gain: High Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 Trig: Free Run W WWW A N N N	Marker 1	
I Spectrum v Scale/Div 10 dB		Ref LvI Offset 49. Ref Level 27.07 d		Mkr1 21.598 0 -34.15 d		Peak
-og 17.1					Normal	Search Pk Searc Config
					Delta (Δ)	Propertie
					Fixed	Marker Function
				0L1 -19.0	Delta Marker (Reset Delta)	Marker-
42.9					Marker Table	Counter
					Marker Settings Diagram	
					All Markers Off	
tart 10.000 GHz Res BW 1.0 MHz		#Video BW 3.0	MHz	Stop 22.000 #Sweep 20.0 s (2000		

#### Port B, Channel Position M 10.0 MHz



Spectrum Analyzer 1 Swept SA	+					Marker	- *
RL Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	Preamp: Off µW Path: Standard	#PNO: Fast Gate: Off #IF Gain: Low Sig Track: Off		23456 WWWWW NNNNN	Select Marker Marker 1	
1 Spectrum 🔻	F	Ref LvI Offset 42.83	dB	Mkr1 4.2	292 GHz	Marker Frequency 4.292146073 GHz	Settings
Scale/Div 10 dB	F	Ref Level 21.50 dBn	n	-32.	70 dBm	Marker Mode	Peak Search
						<ul> <li>Normal</li> <li>Delta (Δ)</li> </ul>	Pk Search Config
						Fixed	Properties
-18.5					L1 -19.02 dBm	Off	Marker Function
-28.5	1					Delta Marker	Marker→
-38.5					~~~~	(Reset Delta) Marker Table	Counter
						On Off	
						Marker Settings Diagram	
						All Markers Off Couple Markers	
Start 3.000 GHz #Res BW 1.0 MHz		#Video BW 3.0 MH	z	Stop 1 #Sweep 20.0 s	10.000 GH; (2000 pts	On Off	
4 h C 🗖	<b>?</b> Jul 20, 2018 1:54:19 PM	$\Box$					

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RL Align: Auto	Corrections: Off Pre	tten: 0 dB #PNO: Fast eamp: Off Gate: Off / Path: Standard #IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 6 Trig: Free Run		
1 Spectrum v	Ref L	vi Offset 49.90 dB Level 27.07 dBm	Mkr1 21.592 GHz -33.99 dBm		Settings Peak
Log 17.1 7 07 2 93 12.9 22.9 32.9 42.9 52.9 52.9 62.9			0(1-19.02 ellin	Marker Mode Normal Delta (Δ) Fixed Off Delta Marker (Reset Delta) Marker Table On Off Marker Table Off Marker Settings Diagram	Search Pk Searc Config Propertie Marker Function Marker Counter
Start 10.000 GHz Res BW 1.0 MHz	#Vi	ideo BW 3.0 MHz	Stop 22.000 GH; #Sweep 20.0 s (2000 pts		

#### Port B, Channel Position T 10.0 MHz



Spectrum Analyzer 1 Swept SA	+				0	Marker	- 米
KEYSIGHT Input: RF RL Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	Preamp: Off Gate µW Path: Standard #IF G	:011 1	Avg Type: Power (RMS 1 2 3 Trig: Free Run A N N	₩₩₩ Ma	ect Marker rker 1	
1 Spectrum		Ref Lvi Offset 42.83 dB		Mkr1 4.352	GHz 4.3	rker Frequency 51675838 GHz	Settings
Scale/Div 10 dB		Ref Level 21.50 dBm		-29.99	Mai	rker Mode	Peak Search
						Normal	Pk Search Config
						Delta (∆)	Properties
						Fixed	Marker Function
-18.5	1			DL1-19		Off	Marker→
-28.5						Delta Marker (Reset Delta)	Counter
-38.5				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Ma	rker Table On Off	Counter
					<	Marker Settings Diagram	
						All Markers Off	
Start 3.000 GHz #Res BW 1.0 MHz		#Video BW 3.0 MHz		Stop 10.00 #Sweep 20.0 s (200	UGH2	uple Markers On Off	
4 h C 🗆	<b>?</b> Jul 20, 2018 1:58:52 PM						

## No.I18Z61058-WMD02 Page166of233



RL Align: Auto	Input Z: 50 Ω #Atten: 0 dB #PNO: Corrections: Off Preamp: Off Gate. ( Freq Ref: Int (S) μW Path: Standard #IF Ga NFE: Adaptive Sig Tra	ff Trig: Free Run WWWWW	Marker 1
1 Spectrum v	Ref Lvi Offset 49.90 dB Ref Level 27.07 dBm	Mkr1 21.610 GH -33.96 dBn	
Log		0(1 19.02 dB	Marker Mode Search Normal Pk Searc Online Delta (Δ) Propertik Fixed Marker Off Marker (Reset Delta) Off Conter Marker Table Off Marker Settings All Markers Off
start 10.000 GHz Res BW 1.0 MHz	#Video BW 3.0 MHz	Stop 22.000 GH #Sweep 20.0 s (2000 pts	Couple Markers

#### Port B, Channel Position B 15.0 MHz



Spectrum Analyzer 1	+				X Marker	
RL Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Ext (S) NFE: Adaptive	#Atten: 6 dB Preamp: Off µW Path: Standard	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 Trig: Free Run A N N N N	W Marker 1	
1 Spectrum 🔻	F	Ref Lvi Offset 42.8	3 dB	Mkr1 4.236 GH -34.95 dB	Marker Frequency 4.236118059 GHz	Settings
Scale/Div 10 dB Log		Ref Level 21.50 dB	m	-34.95 UB	Marker Mode	Peak Search
11.5					Delta (Δ)	Pk Search Config
.8.50					Fixed	Properties
18.5				DL1 -19.02 d	e off	Marker Function
28.5					Delta Marker (Reset Delta)	Marker→
48.5					Marker Table On Off	Counter
					Marker Settings Diagram	
					All Markers Off	
tart 3.000 GHz Res BW 1.0 MHz		#Video BW 3.0 M	Hz	Stop 10.000 G #Sweep 20.0 s (2000 p		
<b>4</b> 7 7 1	? Jul 11, 2018 10:30:30 AM	$\square$				

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KEYSIGHT Input: RF RL Coupling DC Align: Auto	Corrections: Off P	Atten: 0 dB PNO: reamp: Off Gate: W Path: Standard IF Ga Sig Tr	Off		<b>2 3 4 5 6</b> VWWWWW A N N N N N	Select Marker Marker 1	
1 Spectrum v	Ref	Lvi Offset 49.90 dB		Mkr1 21.	604 GHz .14 dBm	21.000001001 0112	Settings Peak
22 9					DL1 -19.02 dBm	Marker Mode Normal Delta (Δ) Fixed Off	Peak Search Pk Searc Config Propertie Marker Function Marker–
42 9 52 9 62 9 662 9					1	Delta Marker (Reset Delta) Marker Table Off Off Diagram All Markers Off	Counter
Start 10.000 GHz #Res BW 1.0 MHz	7 Jul 11, 2018	Video BW 3.0 MHz		Stop #Sweep 20.0	22.000 GHz s (2000 pts	Couple Markers On Off	

#### Port B, Channel Position M 15.0 MHz



Spectrum Analyzer 1 Swept SA	+					Marker Marker	
RL Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive	Preamp: Off Ge µW Path: Standard #IF	NO: Fast ate: Off F Gain: Low g Track: Off	#Avg Type: Power (I Trig: Free Run	RMS 1 2 3 4 5 6 WWWWWW A N N N N N	Select Marker Marker 1	
1 Spectrum v		Ref LvI Offset 42.83 d	-	Mkr	1 4.289 GHz	Marker Frequency 4.288644322 GHz	Settings
Scale/Div 10 dB		Ref Level 21.50 dBm			-33.73 dBm	Marker Mode	Peak Search
						Normal	Pk Search Config
						Delta (Δ)	Properties
					DL1 -19.02 dBm	Fixed	Marker Function
28.5						Delta Marker	Marker→
38.5	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					(Reset Delta)	Counter
48.5						Marker Table On Off	
						Aarker Settings Diagram	
						All Markers Off	
itart 3.000 GHz Res BW 1.0 MHz	II	#Video BW 3.0 MHz			Stop 10.000 GHz 20.0 s (2000 pts	Couple Markers On Off	
<b>4</b> 50	? Jul 20, 2018 2:01:05 PM	$\Box$					