

Test Data

Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	4.304	30	Pass
NVNT	BLE	2442	Ant1	5.086	30	Pass
NVNT	BLE	2480	Ant1	4.947	30	Pass



		Test Gra	aphs		
		Power NVNT BLE	2402MHz Ant1		
Spectrum Analyzer 1 Swept SA	• +				
R T Input: RF Coupling: DC Align: Auto	Input Ζ: 50 Ω #Atte Corr CCorr Freq Ref: Int (S)	n: 30 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	Avg Type: Log-Power Avg Hold: 100/100 Trig: Free Run	1 2 3 4 5 6 M₩₩₩₩₩₩ P N N N N N	
1 Spectrum v		Ref LvI Offset			Mkr1 2.401 948 0 GHz
Scale/Div 10 dB		Ref Level 20.0	00 dBm		4.30 dBm
-10.0					
-20.0 -30.0					
-40.0					
-70.0		#Video BW 6	5.0 MHz		Span 8.000 MHz
#Res BW 2.0 MHz		#11000 8111			Sweep 1.33 ms (10001 pts)
	Jan 17, 2025 / 10:49:04 AM				
		Power NVNT BLE	2442MHz Ant1		
Spectrum Analyzer 1 Swept SA	• +				
KEYSIGHT Input: RF R T H Coupling: DC Align: Auto	Input Ζ: 50 Ω #Atte Corr CCorr Freq Ref. Int (S)	n: 30 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	Avg Type: Log-Power Avg Hold: 100/100 Trig: Free Run	1 2 3 4 5 6 M \vee vee vee vee vee vee vee vee vee ve	
1 Spectrum v Scale/Div 10 dB Log		Ref LvI Offset Ref Level 20.0			Mkr1 2.441 921 6 GHz 5.09 dBm
10.0			1		
-10.0					
-30.0					
-50.0					
-70.0 Center 2.442000 GHz		#Video BW 6	5.0 MHz		Span 8.000 MHz
#Res BW 2.0 MHz	Jan 17, 2025				Sweep 1.33 ms (10001 pts)
1 7 7 1 2	Jan 17, 2025 10:51:12 AM	Power NVNT BLE			







-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	limit	Verdic
NVNT	BLE	2402	Ant1	0.772	0.5	Pass
NVNT	BLE	2442	Ant1	0.772	0.5	Pass
NVNT	BLE	2480	Ant1	0.771	0.5	Pass







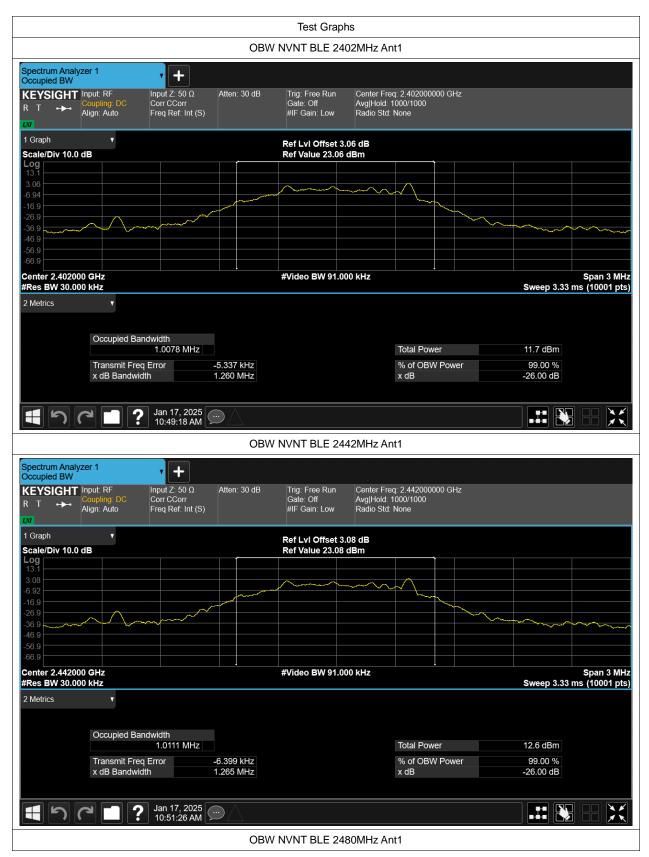
Occupi				• +									
KEYS R T	SIGHT .≁	Input: F Couplir Align: A	ig: DC	Input Z: 50 Corr CCor Freq Ref:		Atten: 30 dB	Trig: Free Run Gate: Off #IF Gain: Low	Center Free Avg Hold: 1 Radio Std:		iHz			
1 Graph	h		•				Ref LvI Offset 3	10 dB			Mk	r3 2.4803	81000 GHz
	Div 10.0	dB					Ref Value 23.10						4.00 dBm
Log 13.1 - 3.10 -						2 1			•	3			
-6.90													
-16.9 -26.9													
-36.9 -	·····												
-46.9 -56.9													
-66.9 -													
	2.48000 3W 100.0						#Video BW 300.	00 kHz				Sweep 1.33	Span 2 MHz ms (10001 pts)
2 Metrie			•										
		Oco	cupied Ban	dwidth									
				1.0316	MHz				Total Power			11.5 dBm	
			nsmit Freq B Bandwidt			-4.162 kHz 771.1 kHz			% of OBW Pov x dB	wer		99.00 % -6.00 dB	
		X UI	Bandwidt						XUD			-0.00 dB	
	5	2	2	Jan 17, 10:53:14	2025 4 AM								



Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2402	Ant1	1.008
NVNT	BLE	2442	Ant1	1.011
NVNT	BLE	2480	Ant1	1.013







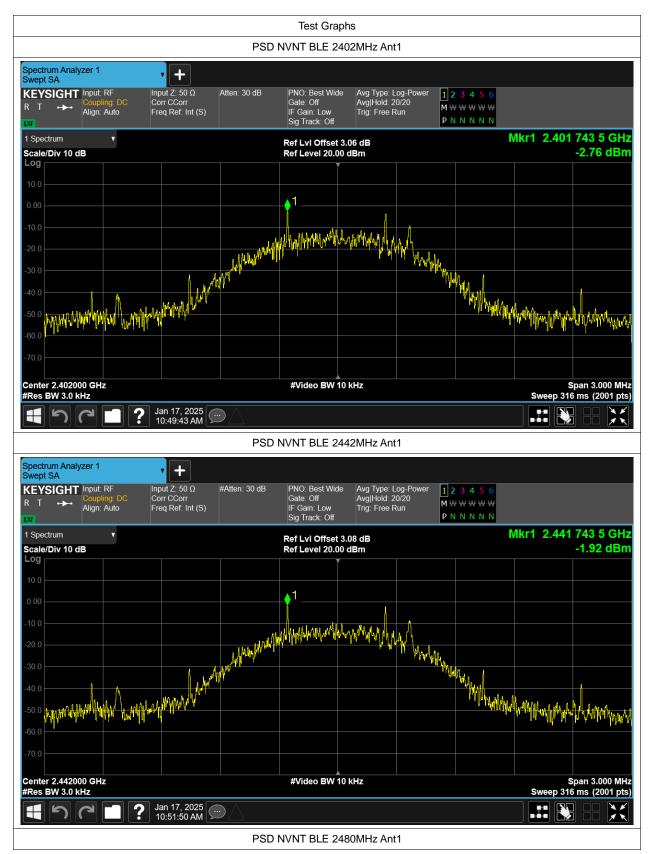




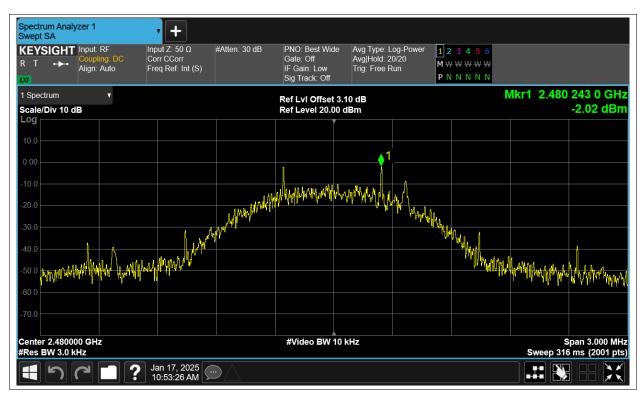
Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	-2.756	8	Pass
NVNT	BLE	2442	Ant1	-1.92	8	Pass
NVNT	BLE	2480	Ant1	-2.02	8	Pass











Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-58.98	-20	Pass
NVNT	BLE	2480	Ant1	-58.13	-20	Pass



		Test Graphs		
	Band Edge	NVNT BLE 2402MHz Ant1 Re	f	
Spectrum Analyzer 1 Swept SA	+			
KEYSIGHT Input: RF Input R T Coupling: DC Corr	t Z: 50 Ω #Atten: 30 dB cCorr g Ref: Int (S)	PNO: Best Wide Avg Type: Log-Pow Gate: Off Avg Hold: 300/300 IF Gain: Low Trig: Free Run Sig Track: Off	ar <u>123456</u> M₩₩₩₩₩₩ PNNNNN	
1 Spectrum v		Ref LvI Offset 3.06 dB	Mkr1 2.4	401 744 GHz
Scale/Div 10 dB		Ref Level 20.00 dBm		3.63 dBm
-10.0				
-20.0				
-40.0			\sim	
-50.0	W ^{CM} NAMINAN C		here and the second sec	nander Wenner Jug
-70.0				
Center 2.402000 GHz #Res BW 100 kHz		#Video BW 300 kHz	#Sweep 5	Span 8.000 MHz 0.0 ms (1001 pts)
	n 17, 2025 :50:03 AM			
	Band Edge N	VNT BLE 2402MHz Ant1 Emiss	sion	
Spectrum Analyzer 1	Band Edge N	VNT BLE 2402MHz Ant1 Emiss	sion	
Swept SA KEYSIGHT Input: RF Coupling: DC Corr	_	VNT BLE 2402MHz Ant1 Emiss PNO: Fast Avg Type: Log-Pow Gate: Off Avg Hold: 20/20 IF Gain: Low Trig: Free Run Sig Track: Off		
Swept SA Input: RF Input: RF R T T Align: Auto I Spectrum Y Scale/Div 10 dB	+ t Z: 50 Ω #Atten: 30 dB	PNO: Fast Avg Type: Log-Pow Gate: Off Avg Hold: 20/20 IF Gain: Low Trig: Free Run	ar 123456 M₩₩₩₩₩ PNNNNN	2.402 4 GHz 3.35 dBm
Swept SA KEYSIGHT Input: RF Coupling: DC Align: Auto I Spectrum Scale/Div 10 dB Log 10.0	+ t Z: 50 Ω #Atten: 30 dB	PNO: Fast Avg Type: Log-Pow Gate: Off Avg Hold: 20/20 IF Gain: Low Trig: Free Run Sig Track: Off Ref Lvl Offset 3.06 dB	ar 123456 M₩₩₩₩₩ PNNNNN	
Swept SA Input: RF Input: RF <th< td=""><td>+ t Z: 50 Ω #Atten: 30 dB</td><td>PNO: Fast Avg Type: Log-Pow Gate: Off Avg Hold: 20/20 IF Gain: Low Trig: Free Run Sig Track: Off Arg Ref LvI Offset 3.06 dB Ref Level 20.00 dBm</td><td>er 1 2 3 4 5 6 M W W W W W P N N N N N Mkr1</td><td>3.35 dBm 1</td></th<>	+ t Z: 50 Ω #Atten: 30 dB	PNO: Fast Avg Type: Log-Pow Gate: Off Avg Hold: 20/20 IF Gain: Low Trig: Free Run Sig Track: Off Arg Ref LvI Offset 3.06 dB Ref Level 20.00 dBm	er 1 2 3 4 5 6 M W W W W W P N N N N N Mkr1	3.35 dBm 1
Swept SA Input: RF Input: RF R T Align: Auto Corr 1 Spectrum V Scale/Div 10 dB V 100 200	+ t Z: 50 Ω #Atten: 30 dB	PNO: Fast Avg Type: Log-Pow Gate: Off Avg Hold: 20/20 IF Gain: Low Trig: Free Run Sig Track: Off Ref Lvl Offset 3.06 dB	ar 123456 M₩₩₩₩₩ PNNNNN	3.35 dBm 1
Swept SA Input: RF Input: RF <th< td=""><td>+ t Z: 50 Ω #Atten: 30 dB</td><td>PNO: Fast Avg Type: Log-Pow Gate: Off Avg Hold: 20/20 IF Gain: Low Trig: Free Run Sig Track: Off Arg Ref LvI Offset 3.06 dB Ref Level 20.00 dBm</td><td>Pr 1 2 3 4 5 6 M W W W W W W</td><td>3.35 dBm 1</td></th<>	+ t Z: 50 Ω #Atten: 30 dB	PNO: Fast Avg Type: Log-Pow Gate: Off Avg Hold: 20/20 IF Gain: Low Trig: Free Run Sig Track: Off Arg Ref LvI Offset 3.06 dB Ref Level 20.00 dBm	Pr 1 2 3 4 5 6 M W W W W W W	3.35 dBm 1
Swept SA Input: RF Input: RF <th< td=""><td>+ t Z: 50 Ω #Atten: 30 dB</td><td>PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref LvI Offset 3.06 dB Ref Level 20.00 dBm</td><td>er 1 2 3 4 5 6 M W W W W W P N N N N N Mkr1 Mkr1 Mkr1 Mkr2 Mkr5</td><td>3.35 dBm</td></th<>	+ t Z: 50 Ω #Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref LvI Offset 3.06 dB Ref Level 20.00 dBm	er 1 2 3 4 5 6 M W W W W W P N N N N N Mkr1 Mkr1 Mkr1 Mkr2 Mkr5	3.35 dBm
Swept SA Input: RF Input: RF Input: RF R T Align: Auto Corr 1 Spectrum • Scale/Div 10 dB Corr 1 Spectrum • • Scale/Div 10 dB • 200 • • • • • 30.0 • • • • • 400 • • • • • • 500 • • • • • • • 5 Kart 2.30600 GHz #Res BW 100 kHz • • • • • 1 N 1 f • • • • •	X 2.402 4 GHz 2.390 0 GHz 2.390 0 GHz	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref LvI Offset 3.06 dB Ref Level 20.00 dBm Avg Hold: 20/20 Trig: Free Run Brack Avg Type: Log-Pow Trig: Free Run Trig: Free	ar 1 2 3 4 5 6 M W W W W W P N N N N N Mkr1 Mkr1	3.35 dBm 0L1-13:3 dBm 2 5top 2.40600 GHz 0.0 ms (1001 pts)







Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-48.55	-20	Pass
NVNT	BLE	2442	Ant1	-47.84	-20	Pass
NVNT	BLE	2480	Ant1	-46.07	-20	Pass



			Test Grap	าร		
		Tx. Spuriou	IS NVNT BLE 2	402MHz Ant1 Re	ef	
Spectrum Analyzer 1 Swept SA	• +					
KEYSIGHT Input: RF R T ↔ Align: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off	Avg Type: Log-Powe Avg Hold: 300/300 Trig: Free Run	r 123456 M \to	
1 Spectrum 🔹	I	I	Ref LvI Offset 3.	06 dB		Mkr1 2.401 745 0 GH
Scale/Div 10 dB			Ref Level 20.00	dBm		3.63 dBn
10.0		L1				
0.00					www	
-10.0						hour -
						- month
-20.0						
-30.0						
-40.0						
-50.0						
-60.0						
-70.0						
Center 2.4020000 GHz			#Video BW 300			Span 1.500 MH
#Res BW 100 kHz						Sweep 1.00 ms (1001 pts
1 7 7 1 ?	Jan 17, 2025 10:50:11 AM					🏥 💽 📑 羔
	T	x. Spurious N	NVNT BLE 240	2MHz Ant1 Emiss	sion	
Spectrum Analyzer 1 Swept SA	T:	x. Spurious №	NVNT BLE 240	2MHz Ant1 Emis	sion	
Swept SA KEYSIGHT Input: RF	τ	x. Spurious N #Atten: 30 dB	PNO: Fast	Avg Type: Log-Powe	1 2 3 4 5 6	
Swept SA KEYSIGHT Input: RF R T +++ Coupling: DC Align: Auto	•	·	PNO: Fast Gate: Off IF Gain: Low		r <u>1</u> 23456 M₩₩₩₩₩₩	
Swept SA KEYSIGHT Input: RF R T Coupling: DC	Input Z: 50 Ω Corr CCorr	·	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	Avg Type: Log-Powe Avg Hold: 5/5 Trig: Free Run	1 2 3 4 5 6	Mkr1 2.402 GH
Swept SA KEYSIGHT Input: RF Coupling: DC Align: Auto I Spectrum Scale/Div 10 dB	Input Z: 50 Ω Corr CCorr	·	PNO: Fast Gate: Off IF Gain: Low	Avg Type: Log-Powe Avg]Hold: 5/5 Trig: Free Run 06 dB	r <u>1</u> 23456 M₩₩₩₩₩₩	Mkr1 2.402 GH 1.93 dBn
Swept SA KEYSIGHT Input: RF R T ↔ Coupling: DC Align: Auto 1 Spectrum Scale/Div 10 dB Log 10.0 1	Input Z: 50 Ω Corr CCorr	·	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref Lvl Offset 3.	Avg Type: Log-Powe Avg]Hold: 5/5 Trig: Free Run 06 dB	r <u>1</u> 23456 M₩₩₩₩₩₩	
Swept SA KEYSIGHT Input: RF Coupling: DC Align: Auto 1 Spectrum Scale/Div 10 dB Log 10.0 -10.0	Input Z: 50 Ω Corr CCorr	·	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref Lvl Offset 3.	Avg Type: Log-Powe Avg]Hold: 5/5 Trig: Free Run 06 dB	r <u>1</u> 23456 M₩₩₩₩₩₩	
Swept SA KEYSIGHT Input: RF R T →→ Coupling: DC Align: Auto 1 Spectrum ▼ Scale/Div 10 dB Log 1.00 0.00	Input Z: 50 Ω Corr CCorr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref Lvl Offset 3.	Avg Type: Log-Powe Avg]Hold: 5/5 Trig: Free Run 06 dB	r <u>1</u> 23456 M₩₩₩₩₩₩	1.93 dBn
Swept SA KEYSIGHT Input: RF R T → I Spectrum ▼ Scale/Div 10 dB ↓ 100 ↓ -10.0 ↓ -30.0 ↓	Input Z: 50 Ω Corr CCorr	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref LvI Offset 3. Ref Level 20.00	Avg Type: Log-Powe Avg]Hold: 5/5 Trig: Free Run 06 dB	r <u>1</u> 23456 M₩₩₩₩₩₩	1.93 dBn
Swept SA KEYSIGHT Input: RF R T → I Spectrum ▼ Scale/Div 10 dB 1 Log 1 10.0 1 -20.0 1 -30.0 -40.0 -60.0	Input Z: 50 Ω Corr Corr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref LvI Offset 3. Ref Level 20.00	Avg Type: Log-Powe Avg]Hold: 5/5 Trig: Free Run 06 dB	r <u>1</u> 23456 M₩₩₩₩₩₩	1.93 dBn
Swept SA KEYSIGHT Input: RF R T → I Spectrum ▼ Scale/Div 10 dB ↓ Log ↓ ↓ 10.0 ↓ ↓ -10.0 ↓ ↓ -30.0 ↓ ↓ -40.0 ↓ ↓ -70.0 ↓ ↓	Input Z: 50 Ω Corr Corr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref Lv1 Offset 3. Ref Level 20.00	Avg Type: Log-Powe Avg Hold: 5/5 Trig: Free Run 06 dB dBm	r <u>1</u> 23456 M₩₩₩₩₩₩	DL1-16.37 dBn
Swept SA KEYSIGHT Input: RF R T 1 Spectrum 1 Spectrum Scale/Div 10 dB Log 10.0 -10.0 -20.0 -30.0 -40.0 -70.0 Start 30 MHz #Res BW 100 kHz	Input Z: 50 Ω Corr Corr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref LvI Offset 3. Ref Level 20.00	Avg Type: Log-Powe Avg Hold: 5/5 Trig: Free Run 06 dB dBm	r <u>1</u> 23456 M₩₩₩₩₩₩	1.93 dBn
Swept SA KEYSIGHT Input: RF R T Coupling: DC I Spectrum V Scale/Div 10 dB I Log I I 10.0 I I -20.0 I I -30.0 I I I -70.0 I I I Start 30 MHz I I I	Input Z: 50 Ω Corr Corr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref Lv1 Offset 3. Ref Level 20.00	Avg Type: Log-Powe Avg Hold: 5/5 Trig: Free Run 06 dB dBm	r <u>1</u> 23456 M₩₩₩₩₩₩	1.93 dBn
Swept SA KEYSIGHT Input: RF R T Coupling. DC JU Ispectrum Ispectrum Scale/Div 10 dB Ispectrum Ispectrum Statt 30 MHz Ispectrum Ispectrum #Res BW 100 kHz Ispectrum Ispectrum	Linput Z: 50 Ω Corr CCorr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref Lv1 Offset 3. Ref Level 20.00	Avg Type: Log-Powe Avg Hold: 5/5 Trig: Free Run 06 dB dBm	r <u>1</u> 23456 M₩₩₩₩₩₩	1.93 dBn
Swept SA KEYSIGHT R T Coupling. DC Align: Auto Scale/Div 10 dB Log 10.0 0.00 -0.0	Linput Z: 50 Ω Corr CCorr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref LvI Offset 3. Ref Level 20.00 4 4 #Video BW 300 Y 1.930 dBm -52.82 dBm	Avg Type: Log-Powe Avg Hold: 5/5 Trig: Free Run 06 dB dBm	r 1 2 3 4 5 6 M W W W W W P N N N N N 	1.93 dBn DL1-16.37 dBn DL1-16.37 dBn Stop 25.00 GH Sweep ~2.49 s (1001 pts
Swept SA KEYSIGHT Input: RF R T Coupling. DC J Spectrum V Scale/Div 10 dB 0 Log 1 0 100 1 0 200 0 0 0 100 1 0 0 200 0 0 0 0 30.0 0 0 0 0 0 50.0 0	Linput Z: 50 Ω Corr CCorr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref LvI Offset 3. Ref Level 20.00 # #Video BW 300 ¥ 1.930 dBm	Avg Type: Log-Powe Avg Hold: 5/5 Trig: Free Run 06 dB dBm	r 1 2 3 4 5 6 M W W W W W P N N N N N 	1.93 dBn DL1-16.37 dBn DL1-16.37 dBn Stop 25.00 GH Sweep ~2.49 s (1001 pts
Swept SA KEYSIGHT Input: RF R T Coupling. DC I Spectrum V Scale/Div 10 dB 0 Log 1 0 10.0 1 0 20.0 0 1 0 30.0 1 1 0 40.0 0 0 0 0 50.0 0 0 0 0 Start 30 MHz #Res BW 100 kHz 5 5 Mode Trace Scale 1 <th1< th=""> 1 1</th1<>	Linput Z: 50 Ω Corr CCorr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref LvI Offset 3. Ref Level 20.00 #Video BW 300 #Video BW 300	Avg Type: Log-Powe Avg Hold: 5/5 Trig: Free Run 06 dB dBm	r 1 2 3 4 5 6 M W W W W W P N N N N N 	1.93 dBn DL1-16.37 dBn DL1-16.37 dBn Stop 25.00 GH Sweep ~2.49 s (1001 pts
Swept SA KEYSIGHT Input: RF R T Coupling: DC Align: Auto I Spectrum Image: Spectrum Image: Spectrum I Spectrum Image: Spectrum Image: Spectrum Scale/Div 10 dB Image: Spectrum Image: Spectrum Scale/Div 10 dB Image: Spectrum Image: Spectrum Scale/Div 10 dB Image: Spectrum Image: Spectrum Start 30 MHz Image: Spectrum Image: Spectrum Start 30 MHz Image: Spectrum Image: Spectrum Mode Trace Scale Image: Mode Trace Scale	Linput Z: 50 Ω Corr CCorr Freq Ref: Int (S)	#Atten: 30 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Ref LvI Offset 3. Ref Level 20.00 #Video BW 300 #Video BW 300	Avg Type: Log-Powe Avg Hold: 5/5 Trig: Free Run 06 dB dBm	r 1 2 3 4 5 6 M W W W W W P N N N N N 	1.93 dBn DL1-16.37 dBn DL1-16.37 dBn Stop 25.00 GH Sweep ~2.49 s (1001 pts







