

**ELECTRICAL SPECIFICATIONS @ 27VDC, 25°C ambient, 50Ω System, MGC mode unless specified otherwise**

Parameter	Specifications						Frequency (MHz) & Test Results												
	Symbol	Min	Typ	Max	Unit	Notes	20	50	100	150	200	250	300	350	400	450	520	Pass/Fail	
Operating Frequency Range	BW	20		520	MHz	Plot 1 (pg4)	x	x	x	x	x	x	x	x	x	x	x	Pass	
Input Frequency Hopping F1=200MHz, F2=300MHz <i>(Min. Dwell=20uS (A/C fast Peak Detection mode only))</i>	F1-2	100			μSec	DVT Only	x	x	x	x	x	x	x	x	x	x	x	-	
Output Power CW @ 900W (into 2:1 VSWR)	P <sub>out</sub>	59.6			dBm	Record	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	Pass	
Power Reporting Accuracy	P <sub>FWD</sub>			±1.0	dB	Record (see pg3)	x	x	x	x	x	x	x	x	x	x	x	Pass	
	P <sub>REV</sub>			±1.0	dB		x	x	x	x	x	x	x	x	x	x	x	x	Pass
Sample Port @ P <sub>OUT</sub> = 59.6 dBm	P <sub>sample</sub>	-5		5	dBm	Record	0.478	0.383	0.425	0.389	0.085	-0.009	-0.151	-0.529	-0.670	-0.572	-0.812	Pass	
Input Power for rated P <sub>OUT</sub> = 900W <i>(CW-MGC MODE minimum VVA attenuation)</i>	P <sub>IN</sub>	-15	-5	-3	dBm	Record	-5.8	-6.2	-6.9	-7.6	-8.3	-8.5	-6.1	-8.1	-7.4	-7.5	-5.8	Pass	
Small Signal Gain Flatness, P <sub>IN</sub> = -30dBm	ΔG			±2.5	dB	Plot 1 (pg4)	x	x	x	x	x	x	x	x	x	x	x	Pass	
Leveled ALC Flatness @ 59.6dBm	ΔALC			±1.5	dB	Plot 2 (pg4)	x	x	x	x	x	x	x	x	x	x	x	Pass	
Gain Adjustment Range	VVA	20			dB	Plot 3 (pg4)	x	x	x	x	x	x	x	x	x	x	x	Pass	
Wide Band Noise Level, beyond 3MHz from carrier, <i>including phase noise</i>	N <sub>OWIDE</sub>			-50	dBm/kHz	DVT Only	x	x	x	x	x	x	x	x	x	x	x	-	
RF Noise in transmission mode <i>@ 59.6dB Gain @ 5MHz from carrier inc phase noise</i>	N <sub>o</sub>			-80	dBm/Hz	DVT Only	x	x	x	x	x	x	x	x	x	x	x	-	
Input Return Loss	S <sub>11</sub>			-10	dB	Plot 4 (pg4)	x	x	x	x	x	x	x	x	x	x	x	Pass	
Inter-modulation (2nd Order) 2-Tones @ 53.6dBm/Tone	IMD <sub>2nd</sub> Δ=10kHz			-20	dBc	Record	-27.41	-39.63	-38.62	-43.91	-36.13	-30.99	-38.87	-62.18	-66.8	-51	-70.99	Pass	
	IMD <sub>2nd</sub> Δ=1MHz			-20	dBc	Record	-27.96	-39.64	-38.53	-43.64	-36.34	-31.54	-38.98	-62.59	-65.81	-51.87	-69.49	Pass	
Inter-modulation (3rd Order) 2-Tones @ 53.6dBm/Tone	IMD <sub>3rd</sub> Δ=10kHz			-27	dBc	Record	-33.96	-37.04	-34.9	-32.17	-32.06	-37.61	-36.05	-37.62	-39.64	-32.79	-28.31	Pass	
	IMD <sub>3rd</sub> Δ=1MHz			-25	dBc	Record	-31.27	-32.03	-30.37	-28.24	-27.19	-28.86	-27	-29.36	-29.05	-28.62	-27.65	Pass	
Out-of-Band IMD Distortion Level 2-Tones @ 53.6dBm/Tone, Δ=1MHz	500-520MHz			-25	dBc	Record	x	x	x	x	x	x	x	x	x	x	x	-65	Pass
	>520MHz			-60	dBc		x	x	x	x	x	x	x	x	x	x	x	x	-65
In-Band Harmonics @ P <sub>out</sub> = 900W	2 <sup>nd</sup>			-20	dBc	Record	-26.97	-38.94	-39.97	-60.95	-36.92	-35.57	-41.65	-64.64	-64.74	-59.21	-68.5	Pass	
	3 <sup>rd</sup>			-13	dBc		-15.83	-14.11	-16.16	-16.34	-25.14	-66.05	-54.97	-61.9	-70.34	-90.99	-74.22	Pass	
Out-of-Band Harmonic Distortion Level @ P <sub>out</sub> = 900W	>500-700MHz			-25	dBc	Record	-75	-60.34	-27.53	-56.93	-25.14	-66.05	-54.97	-61.9	-80	-80	-80	Pass	
	>700MHz			-60	dBc		-75	-75	-87.07	-82.04	-60.28	-61.12	-89.65	-86.81	-70.34	-90.99	-74.22	Pass	
Spurious Signals	Spur	-70		-60	dBc	Record	-70	x	x	x	x	-70	x	x	x	x	-70	Pass	
AM Modulation 85% depth Fc = 100MHz <i>@ 250W average (-900W peak)</i>	3kHz			-20	dBc	Record	-39												Pass
Pulse performance Fc = 225MHz, P <sub>OUT</sub> = 900W(peak) Pulse Period: 100uSec, 50% Duty Cycle	T <sub>RISE</sub> 90%			150	nSec	DVT Only													
	T <sub>FALL</sub> 10%			150															
Switching Time, 1KHz TTL, PIN = 0dBm	T <sub>ON</sub> 90%			10	μSec	Plot 5 (pg5)	3.6												Pass
Power Consumption @ Cold Standby	I <sub>SD</sub>			800	VA	Record	103.6												Pass
Power Consumption @ Hot Standby	I <sub>SB</sub>			2200	VA	Record	691.6												Pass
Power Consumption @ P <sub>OUT</sub> = 500W (ALC mode)	P <sub>D</sub>			2800	VA	Record	2430	2190	2346	1988	2470	2920	2766	2724	2576	2414	2610	Fail	
Power Consumption @ P <sub>OUT</sub> = 900W	P <sub>D</sub>			5200	VA	Record	3744	3282	3520	2990	3676	4469	4248	4197	3850	3528	3668	Pass	
NTE Test, Limiter = 60.5dBm (AGC mode)	P <sub>OOD</sub>			61	dBm	Record P <sub>OUT</sub>	60	x	x	x	x	60.1	x	x	x	x	60.7	Pass	
Input Overdrive -Shut down	P <sub>IOD</sub>			13	dBm	Verify	√												Pass
Thermal Overload -Shut down	T <sub>SD</sub>			115	°C	DVT Only	√												Pass
Reflected Power Reduction Point <i>(Approx. 3.5:1 VSWR trip point, max reduction -6dB)</i>	VSWR			>3:1	VSWR	Verify	√												Pass

## Power Reporting Accuracy

Forward Power, 50 Ohm Load (ALC MODE)							
Frequency (MHz)	Measuremnt Method	PIN =0dBm	PIN =0dBm	PIN =0dBm	PIN =0dBm	Limits	P/F
20	External Test Equipment	59.32	56.08	53.26	50.31	±1 dB	Pass
	Ethernet Reporting	59.62	56.41	52.8	50.05		
	Pass/Fail	P	P	P	P		
250	External Test Equipment	59.41	56.08	53.12	50.07	±1dB	Pass
	Pass/Fail	P	P	P	P		
520	External Test Equipment	59.96	56.63	53.68	50.63	±1 dB	Pass
	Pass/Fail	P	P	P	P		

Reverse Power, Open Load (AGC MODE)					
Frequency (MHz)	Measuremnt Method	PIN =-10dBm	PIN =-8dBm	PIN =-7dBm	PIN =-6dBm
20	External Test Equipment FWD PWR	50.07	52.12	53.15	54.34
	Ethernet Reporting FWD PWR	50.18	52.06	53.2	54.33
	Ethernet Reporting REV PWR	50.41	52.44	53.54	54.56
250	External Test Equipment FWD PWR	48.97	50.8	51.87	52.88
	Ethernet Reporting FWD PWR	48.71	50.38	51.49	52.36
	Ethernet Reporting REV PWR	48.48	50.24	51.26	52.29
520	External Test Equipment FWD PWR	48.61	50.47	51.5	52.56
	Ethernet Reporting FWD PWR	48.65	50.45	51.49	52.7
	Ethernet Reporting REV PWR	47.36	49.19	50.21	51.08

PERFORMANCE PLOTS

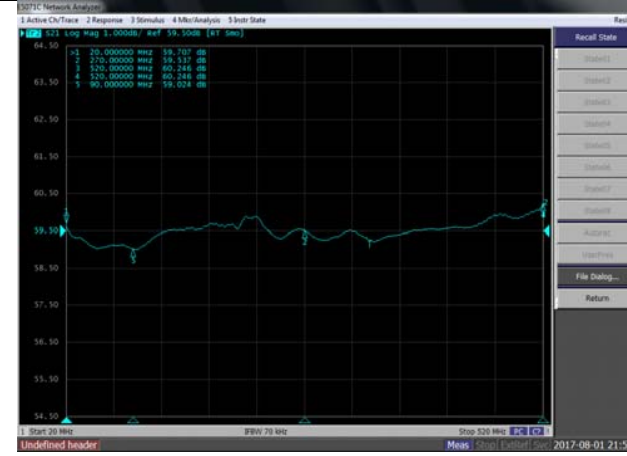
Plot 1 - Small Signal Gain

Top Curve: Small Signal Gain @  $P_{in} = -30dBm$   
Reference: 65dB, 1dB/div.



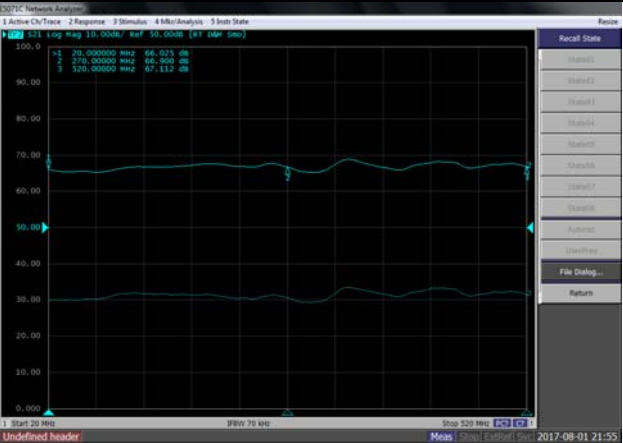
Plot 2 - Leveled ALC Flatness - 900W

Top Curve: Power Gain @ Constant  $P_{in} = 0dBm$   
Reference: 59.5dB, 1dB/Div.



Plot 3 -Gain Adjustment Range

Top Curve: Max Signal Gain @  $P_{in} = -30dBm$   
Reference Level: 50dB, 10dB/div.  
Bottom Curve: Minimum Signal Gain @  $P_{in} = -30dBm$



Plot 4- Small Signal Return Loss

Top Curve: Input Return loss  
Reference: -10dB, 10dB/div.

