**ELECTRICAL SPECIFICATIONS** @ $220V_{AC}$, 25°C ambient, 50Ω System

| Parameter | Specifications | | | | | | Frequency (MHz) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Symbol | Min | Typ | Max | Unit | Notes | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | P/F |
| Operating Frequency - BW | BW A | 1000 | | 3000 | MHz | | x | x | x | x | x | x | x | x | x | Pass |
| Output Power @ 3dB G.C.P. | $P_{SAT}$ | 60 | | | dBm | Record | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 59.8 | Pass |
| Output Power @1dB G.C.P. (80% AM Method) | P1dB | 57 | | | dBm | Record | 59.3 | >60 | >60 | >60 | >60 | >60 | >60 | >60 | >60 | Pass |
| Power Gain @ $P_{OUT}$=1000W | $G_{1dB}$ | 60 | | | dB | Record | 70.8 | 71.8 | 69.4 | 68.7 | 66.9 | 67.5 | 67.5 | 66.9 | 67.4 | Pass |
| Input Power for rated $P_{OUT}$ = 1000W | $P_{IN}$ | | 0 | | dBm | Record | -10.8 | -11.8 | -9.4 | -8.7 | -6.9 | -7.5 | -7.5 | -6.9 | -7.4 | Pass |
| Small Signal Gain Flatness ($P_{IN}$ = -30dBm) | ΔG | | | ±3.5 | dB | Plots 1 | x | x | x | x | x | x | x | x | x | Pass |
| Leveled ALC Flatness - 1000W | ΔALC | | | ±1.0 | dB | Plots 2 | x | x | x | x | x | x | x | x | x | Pass |
| Gain Adjustment Range | VVA | 20 | | | dB | Plot 3 | x | x | x | x | x | x | x | x | x | Pass |
| Gain @ Shutdown Condition, $P_{IN}$ = 0dBm | $G_{SD}$ | | | -35 | dB | Plot 4 | x | x | x | x | x | x | x | x | x | Pass |
| Input Return Loss | S11 | | | -10 | dB | Plot 1 | x | x | x | x | x | x | x | x | x | Pass |
| Noise Figure @ Max Gain1000-3000MHz | NF | | | 20 | | DVT | - | - | - | - | - | - | - | - | - | Pass |
| Inter-modulation (Third Order Intercept Point) 2-Tones @ 54dBm/Tone, Δ=1MHz | IMD | | | -20 | dBc | Record Note 1 | -25.0 | -33.2 | -35.7 | -35.2 | -31.5 | -31.1 | -27.4 | -28.7 | -23.8 | Pass |
| Harmonics @ $P_{OUT}$ = 1000W | 2nd | | | -12 | dBc | Record | -20.4 | -18.0 | -19.5 | -29.9 | -34.9 | -28.4 | -50.2 | -36.9 | -24.8 | Pass |
| | 3rd | | | -10 | | | -24.3 | -33.5 | -40.5 | -42.2 | -20.4 | -35.2 | | | | Pass |
| | 4th | | | -25 | | | -45.0 | -57.2 | -32.5 | | | | | | | Pass |
| | 5th | | | -15 | | | -61.0 | -44.1 | | | | | | | | Pass |
| Spurious Signals | Spur | | | -60 | dBc | Record | <-65 | <-65 | <-65 | <-65 | <-65 | <-65 | <-65 | <-65 | <-65 | Pass |
| Switching Time, 1KHz TTL, $P_{IN}$ = 0dBm | $T_{ON}$ | | | 3 | µSec | Plot 9 | 0.492 | | | | | | | | | Pass |
| | $T_{OFF}$ | | | 3 | | Plot 10 | 0.298 | | | | | | | | | Pass |
| Pulse performance, $F_C$ = 2000MHz, $P_{OUT}$ = 1000W(peak) Pulse Period: 150uSec, 67% Duty Cycle | $T_{RISE}$ | | | 400 | nSec | Plots 5,6, 7 & 8 | 35.3 | | | | | | | | | Pass |
| | $T_{FALL}$ | | | 250 | | | 54.1 | | | | | | | | | Pass |
| AM Modulation 85% depth $F_C$ = 2000MHz @ 400W average (~1000W peak) | 1kHz | | | -20 | dBc | Record | -22.8 | | | | | | | | | Pass |
| | 20kHz | | | -20 | dBc | Record | -25.6 | | | | | | | | | Pass |


©2015 Empower RF Systems, Inc.

**Plot 1 - Small Signal Gain @Manual Mode**

Top Curve: Small Signal Gain @ $P_{IN}$ = -20dBm

Reference: 60dB, 1dB/div.

Bottom Curve: Input Return Loss

Reference: 0dB, 10dB/div.

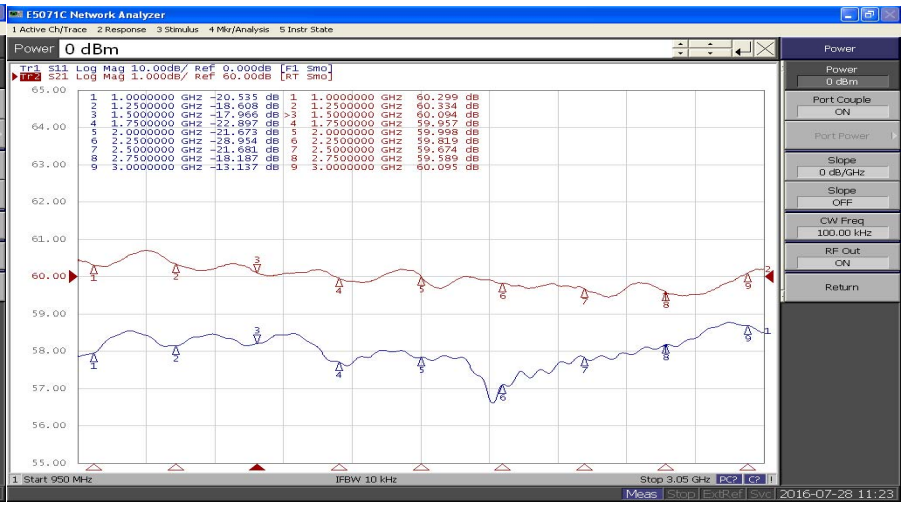

**Plot 2 - Full Band ALC Flatness @ 1000W**

Top Curve: ALC @1000W, PIN = 0dBm

Reference: 60dB, 1dB/div.

Bottom Curve: Input Return Loss

Reference: 0dB, 10dB/div.

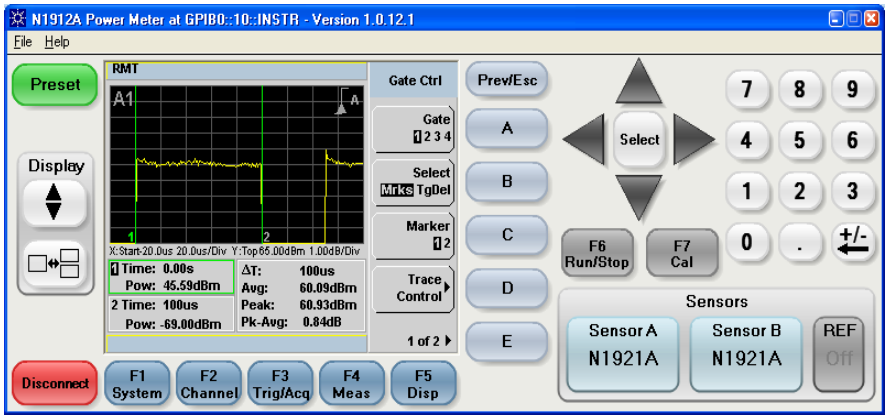




©2015 Empower RF Systems, Inc.

**Plot 5 - Pulse performance - Blanking - 150µs Period and 66.67% D.C.**

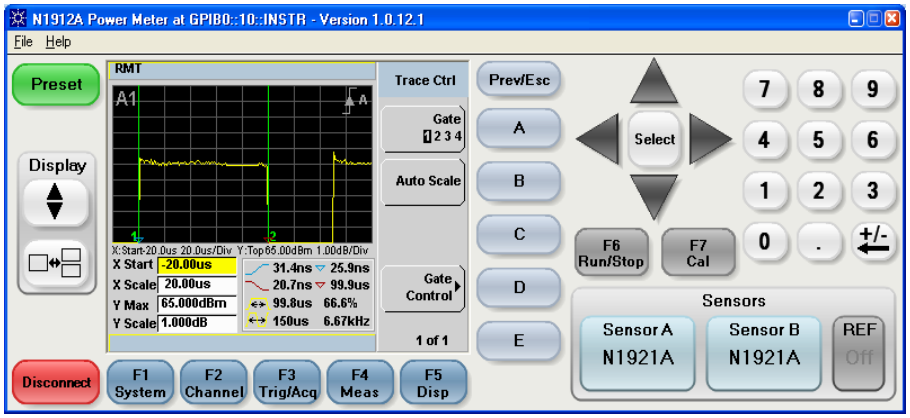
Pulse at 60.0dBm peak power




**Plot 6 - Pulse performance - Blanking - 150µs Period and 66.67% D.C.**

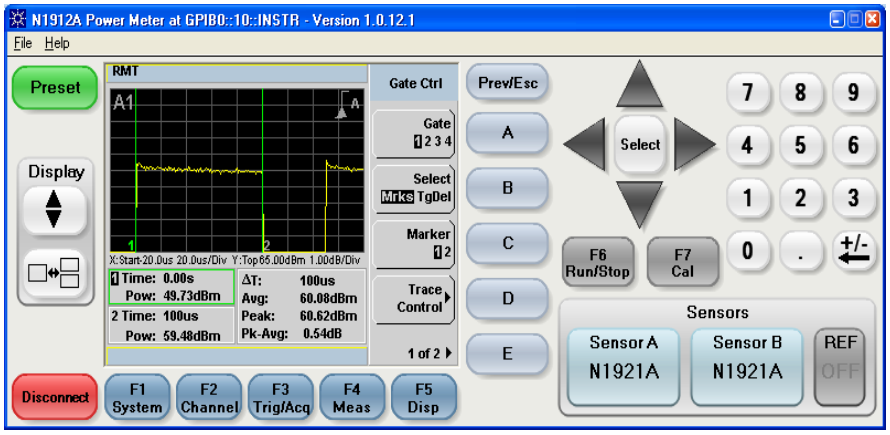
Pulse risetime: 31.4nsec

Pulsefalltime: 20.7nsec




**Plot 7 - Pulse performance - Pulsed RF - 150µs Period and 66.67% D.C.**

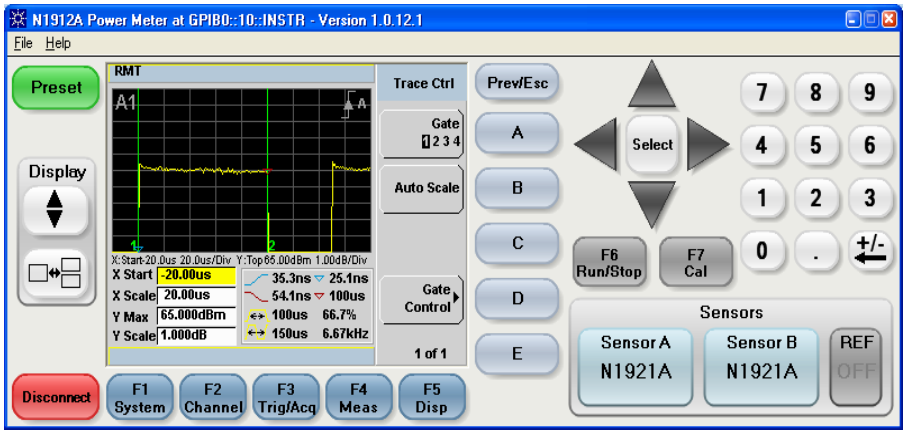
Pulse at 60.0dBm peak power




**Plot 8 - Pulse performance - Pulsed RF - 150µs Period and 66.67% D.C.**

Pulse risetime: 35.3nsec

Pulsefalltime: 54.1nsec





©2015 Empower RF Systems, Inc.