

ELECTRICAL SPECIFICATIONS @ 120VAC, 25°C ambient, 50Ω System, MGC mode unless specified otherwise

| Parameter | Specifications | | | | | | Frequency (MHz) & Test Results | | | | | | | | | | | | |
|--|---------------------------|-----|------|------|------|-------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|-----------|------|
| | Symbol | Min | Typ | Max | Unit | Notes | 20 | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | Pass/Fail | |
| Operating Frequency Range | BW | 20 | | 1000 | MHz | Plot 1 (pg4) | x | x | x | x | x | x | x | x | x | x | x | Pass | |
| Sample Port @ P _{OUT} = 50.0 dBm | P _{sample} | | 0 | | dBm | Record | 0 | -0.2 | -0.1 | 0 | -0.8 | 0 | -1.1 | 0.4 | -0.7 | -1.7 | -0.4 | Pass | |
| Power Gain @ Rated Output | G _{pout} | | 49 | | dBm | Record | 52.7 | 52.6 | 53.1 | 53.4 | 53.5 | 52.3 | 53.5 | 51.2 | 54.1 | 53.4 | 54.9 | Pass | |
| Input Power for rated P _{OUT} = 100W | P _{IN} | | -5 | | dBm | Record | -2.7 | -2.6 | -3.1 | -3.4 | -3.5 | -2.3 | -3.5 | -1.2 | -4.1 | -3.4 | -4.9 | Pass | |
| Small Signal Gain Flatness, P _{IN} = -20dBm | ΔG | | | ±3.5 | dB | Plot 1 (pg4) | x | x | x | x | x | x | x | x | x | x | x | Pass | |
| Leveled ALC Flatness @ 50dBm | 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 | |
| Input Return Loss | S ₁₁ | | | -10 | dB | Plot 1(pg4) | x | x | x | x | x | x | x | x | x | x | x | Pass | |
| Inter-modulation (3rd Order) 2-Tones @ 44dBm/Tone | IMD _{3rd} Δ=1MHz | | -25 | | dB | Record | -29 | -26 | -25 | -32 | -33 | -32 | -33 | -31 | -32 | -33 | -28 | Pass | |
| | IP3 | | 56.5 | | dB | Record | 58.5 | 57.0 | 56.5 | 60.0 | 60.5 | 60.0 | 60.5 | 59.5 | 60.0 | 60.5 | 58.0 | Pass | |
| Harmonics @ P _{out} = 100W | 2 nd | | -20 | | dBc | Record | -20 | -37 | -34 | -24 | -36 | -30 | -34 | -41 | -51 | -52 | -42 | Pass | |
| | 3 rd | | -20 | -9 | dBc | | -14 | -16 | -17 | -37 | -31 | -33 | -32 | -50 | -46 | -52 | -63 | Pass | |
| Spurious Signals | Spur | | -70 | -60 | dBc | Record | -70 | x | | x | x | -70 | x | x | x | x | -70 | Pass | |
| Switching Time, 1KHz TTL, P _{IN} = 0dBm | T _{ON 90%} | | | 3 | μSec | Record | 1 | | | | | | | | | | | Pass | |
| | T _{OFF 10%} | | | 3 | | Record | 0.3 | | | | | | | | | | | Pass | |
| Operating Voltage | V _{AC} | 100 | 120 | 240 | Volt | Verify | √ | | | | | | | | | | | | Pass |
| Power Consumption @ Cold Standby | I _{SD} | | | 1.5 | VA | Record | 1 | | | | | | | | | | | | Pass |
| Power Consumption @ Hot Standby | I _{SB} | | | 2 | VA | Record | 1.65 | | | | | | | | | | | | Pass |
| Power Consumption @ P _{OUT} = 100W | P _D | | | 700 | VA | Record | 592 | 510 | 493 | 517 | 552 | 606 | 618 | 630 | 608 | 649 | 562 | Pass | |
| NTE Test, Limiter = 51.2dBm | P _{OOD} | | | 51.2 | dBm | Record P _{OUT} | 50.2 | x | x | x | x | 50.3 | x | x | x | x | 51.2 | Pass | |
| Input Overdrive –Shut down | P _{IOD} | | | 10 | dBm | Verify | √ | | | | | | | | | | | | Pass |
| Thermal Overload –Shut down | T _{SD} | | | 115 | °C | DVT Only | - | | | | | | | | | | | | - |
| Reflected Power Reduction Point (Approx. 3.5:1 VSWR trip point; max reduction -6dB) | VSWR | | | >3:1 | VSWR | Verify | √ | | | | | | | | | | | | Pass |

ELECTRICAL SPECIFICATIONS @ 120VAC, 25°C ambient, 50Ω System, MGC mode unless specified otherwise

| Parameter | Specifications | | | | | | Frequency (MHz) & Test Results | | | | | | | | | | | | |
|--|---------------------------|------|------|------|------|-------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|-----------|------|
| | Symbol | Min | Typ | Max | Unit | Notes | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 | Pass/Fail | |
| Operating Frequency Range | BW | 1000 | | 3000 | MHz | Plot 1 (pg5) | x | x | x | x | x | x | x | x | x | x | x | Pass | |
| Sample Port @ P _{OUT} = 50.0 dBm | P _{sample} | | -5 | | dBm | Record | -3.8 | -4 | -5 | -6.2 | -7.1 | -6.9 | -5.3 | -4.5 | -4.5 | -4.5 | -5.1 | Pass | |
| Power Gain @ Rated Output | G _{pout} | | 49 | | dBm | Record | 50 | 51.1 | 54.8 | 52.8 | 51.5 | 50.2 | 50.5 | 54.5 | 50.7 | 52 | 52 | Pass | |
| Input Power for rated P _{OUT} = 100W | P _{IN} | | -5 | | dBm | Record | 0 | -1.1 | -4.8 | -2.8 | -1.5 | -0.2 | -0.5 | -4.5 | -0.7 | -2 | -2 | Pass | |
| Small Signal Gain Flatness, P _{IN} = -20dBm | ΔG | | | ±3.5 | dB | Plot 1 (pg5) | x | x | x | x | x | x | x | x | x | x | x | Pass | |
| Leveled ALC Flatness @ 50dBm | ΔALC | | | ±1.5 | dB | Plot 2 (pg5) | x | x | x | x | x | x | x | x | x | x | x | Pass | |
| Gain Adjustment Range | VVA | 20 | | | dB | Plot 3 (pg5) | x | x | x | x | x | x | x | x | x | x | x | Pass | |
| Input Return Loss | S ₁₁ | | | -10 | dB | Plot 1(pg5) | x | x | x | x | x | x | x | x | x | x | x | Pass | |
| Inter-modulation (3rd Order) 2-Tones @ 44dBm/Tone | IMD _{3rd} Δ=1MHz | | -25 | | dB | Record | -31 | -34 | -35 | -28 | -29 | -34 | -30 | -32 | -26 | -25 | -29 | Pass | |
| | IP3 | | 56.5 | | dB | Record | 59.5 | 61.0 | 61.5 | 58.0 | 58.5 | 61.0 | 59.0 | 60.0 | 57.0 | 56.5 | 58.5 | Pass | |
| Harmonics @ P _{out} = 100W | 2 nd | | -20 | | dBc | Record | -21 | -22 | -26 | -32 | -38 | -40 | -43 | -47 | -60 | -65 | -60 | Pass | |
| | 3 rd | | -20 | -9 | dBc | | -32 | -50 | -46 | -42 | -50 | -60 | -39 | -47 | -47 | -45 | -43 | Pass | |
| Spurious Signals | Spur | | -70 | -60 | dBc | Record | -70 | x | x | x | x | -70 | x | x | x | x | -70 | Pass | |
| Switching Time, 1KHz TTL, P _{IN} = 0dBm | T _{ON 90%} | | | 3 | μSec | Record | 1 | | | | | | | | | | | Pass | |
| | T _{OFF 10%} | | | 3 | | Record | 0.3 | | | | | | | | | | | Pass | |
| Operating Voltage | V _{AC} | 100 | 120 | 240 | Volt | Verify | √ | | | | | | | | | | | | Pass |
| Power Consumption @ Cold Standby | I _{SD} | | | 1.5 | VA | Record | 1 | | | | | | | | | | | | Pass |
| Power Consumption @ Hot Standby | I _{SB} | | | 2 | VA | Record | 1.65 | | | | | | | | | | | | Pass |
| Power Consumption @ P _{OUT} = 100W | P _D | | | 700 | VA | Record | 508 | 485 | 435 | 403 | 485 | 605 | 506 | 437 | 451 | 528 | 506 | Pass | |
| NTE Test, Limiter = 51.2dBm | P _{OOD} | | | 51.2 | dBm | Record P _{OUT} | 51.5 | x | x | x | x | 50.7 | x | x | x | x | 50.7 | Pass | |
| Input Overdrive –Shut down | P _{IOD} | | | 10 | dBm | Verify | √ | | | | | | | | | | | | Pass |
| Thermal Overload –Shut down | T _{SD} | | | 115 | °C | DVT Only | - | | | | | | | | | | | | - |
| Reflected Power Reduction Point (Approx. 3.5:1 VSWR trip point; max reduction -6dB) | VSWR | | | >3:1 | VSWR | Verify | √ | | | | | | | | | | | | Pass |

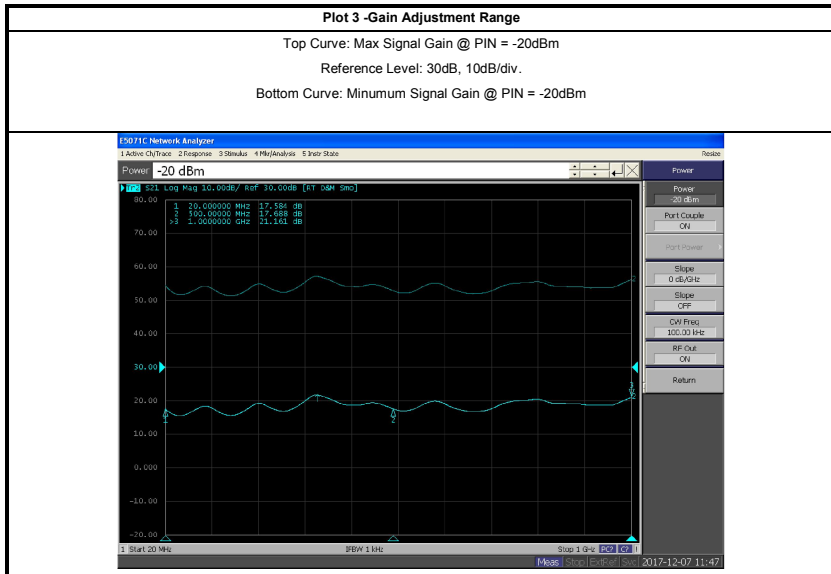
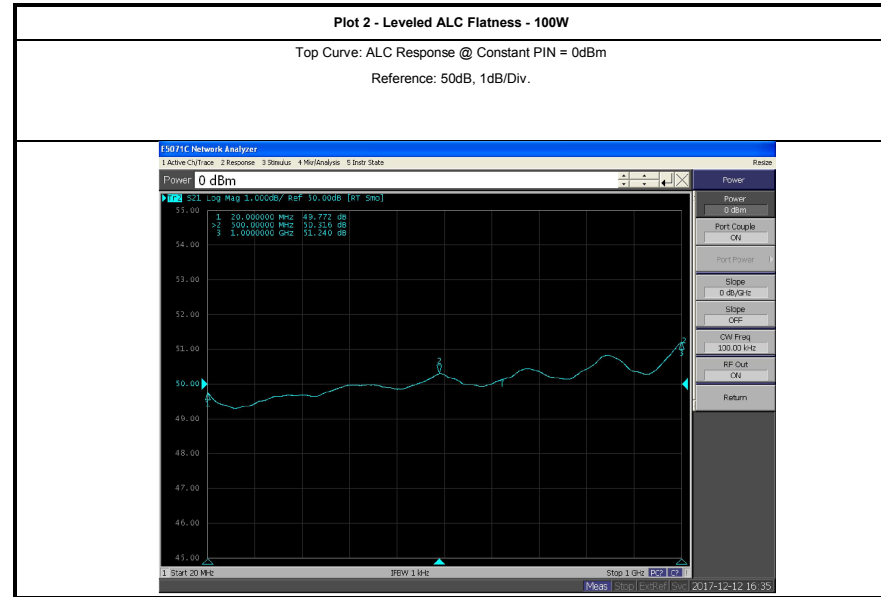
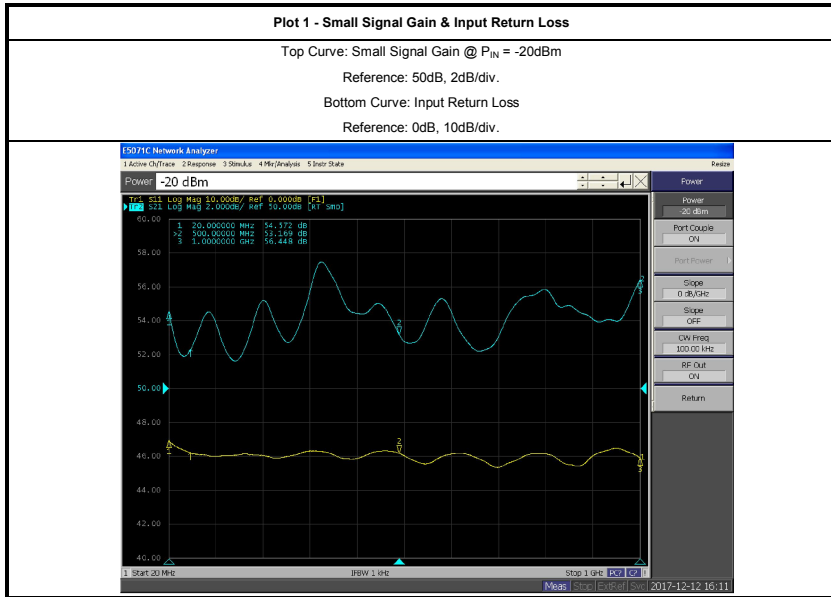
ELECTRICAL SPECIFICATIONS @ 120VAC, 25°C ambient, 50Ω System, MGC mode unless specified otherwise

| Parameter | Specifications | | | | | | Frequency (MHz) & Test Results | | | | | | | | | | | |
|--|---------------------------|------|------|------|------|-------------------------|--------------------------------|-------|------|------|------|------|------|------|------|------|------|-----------|
| | Symbol | Min | Typ | Max | Unit | Notes | 2000 | 2400 | 2800 | 3200 | 3600 | 4000 | 4400 | 4800 | 5200 | 5600 | 6000 | Pass/Fail |
| Operating Frequency Range | BW | 2000 | | 6000 | MHz | Plot 1 (pg4) | x | x | x | x | x | x | x | x | x | x | x | Pass |
| Sample Port @ P _{OUT} = 46.0 dBm | P _{sample} | | -5 | | dBm | Record | -5.6 | -3.6 | -4.4 | -3.4 | -2.7 | -6.7 | -6.9 | -4.5 | -4.9 | -5.8 | -3.8 | Pass |
| Power Gain @ Rated Output | G _{pout} | | 45 | | dBm | Record | 53.2 | 56.8 | 54.5 | 51.7 | 50.6 | 51.7 | 49 | 49.3 | 48.6 | 47.3 | 46 | Pass |
| Input Power for rated P _{OUT} = 40W | P _{IN} | | -5 | | dBm | Record | -7.2 | -10.8 | -8.5 | -5.7 | -4.6 | -5.7 | -3 | -3.3 | -2.6 | -1.3 | 0 | Pass |
| Small Signal Gain Flatness, P _{IN} = -20dBm | ΔG | | | ±3.5 | dB | Plot 1 (pg4) | x | x | x | x | x | x | x | x | x | x | x | Pass |
| Leveled ALC Flatness @ 46dBm | 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 |
| Input Return Loss | S ₁₁ | | | -10 | dB | Plot 1(pg4) | x | x | x | x | x | x | x | x | x | x | x | Pass |
| Inter-modulation (3rd Order) 2-Tones @ 40dBm/Tone | IMD _{3rd} Δ=1MHz | | -25 | | dB | Record | -32 | -32 | -30 | -28 | -41 | -34 | -30 | -32 | -30 | -22 | -27 | Pass |
| | IP3 | | 56.5 | | dB | Record | 56.0 | 56.0 | 55.0 | 54.0 | 60.5 | 57.0 | 55.0 | 56.0 | 55.0 | 51.0 | 53.5 | Pass |
| Harmonics @ P _{out} = 40W | 2 nd | | -20 | | dBc | Record | -18 | -15 | -16 | -19 | -28 | -41 | <-65 | <-65 | <-65 | <-65 | <-65 | Pass |
| | 3 rd | | -20 | -9 | dBc | | -38 | -44 | <-65 | <-65 | <-65 | <-65 | <-65 | <-65 | <-65 | <-65 | <-65 | Pass |
| Spurious Signals | Spur | | -70 | -60 | dBc | Record | <-65 | x | x | x | x | <-65 | x | x | x | x | <-65 | Pass |
| Switching Time, 1KHz TTL, P _{IN} = 0dBm | T _{ON 90%} | | | 3 | μSec | Record | 1.5 | | | | | | | | | | | Pass |
| | T _{OFF 10%} | | | 3 | | Record | 1 | | | | | | | | | | | Pass |
| Operating Voltage | V _{AC} | 100 | 120 | 240 | Volt | Verify | √ | | | | | | | | | | | Pass |
| Power Consumption @ Cold Standby | I _{SD} | | | 1.5 | VA | Record | 1 | | | | | | | | | | | Pass |
| Power Consumption @ Hot Standby | I _{SB} | | | 2 | VA | Record | 1.65 | | | | | | | | | | | Pass |
| Power Consumption @ P _{OUT} = 100W | P _D | | | 600 | VA | Record | 232 | 242 | 264 | 278 | 288 | 267 | 301 | 306 | 343 | 326 | 352 | Pass |
| NTE Test, Limiter = 51.2dBm | P _{OOD} | | | 47.5 | dBm | Record P _{OUT} | 47.1 | x | x | x | x | 47.3 | x | x | x | x | 46.6 | Pass |
| Input Overdrive –Shut down | P _{IOD} | | | 10 | dBm | Verify | √ | | | | | | | | | | | Pass |
| Thermal Overload –Shut down | T _{SD} | | | 115 | °C | DVT Only | - | | | | | | | | | | | - |
| Reflected Power Reduction Point (Approx. 3.5:1 VSWR trip point; max reduction -6dB) | VSWR | | | >3:1 | VSWR | Verify | √ | | | | | | | | | | | Pass |

I/O Connector , 14-Pin

| I/O Connector | 1: Fwd (TP) | 2: Rev (TP) | 3: Summary Fault | 4:VVA cntrl | 5: Ext. Shutdown TTL _{Low} | 6: VDC (TP) 12 VDC ± 2.0 VDC | 7: VDC (TP) 44VDC ± 4.8 VDC | 8: GND | 9-11: Open Drain Cntrl | 12: I/O | 13: I/O | 14: GND |
|---------------|-------------|-------------|------------------|-------------|-------------------------------------|---------------------------------|--------------------------------|--------|------------------------|---------|---------|---------|
| Record | N/A | N/A | √ | - | √ | 11.6V | 48.1V | √ | - | - | - | √ |

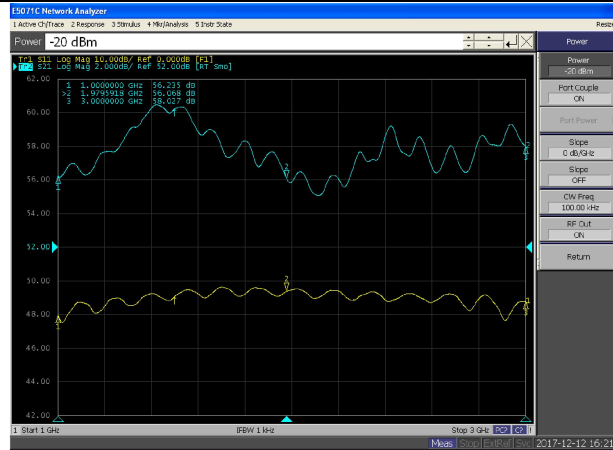
PERFORMANCE PLOTS



PERFORMANCE PLOTS

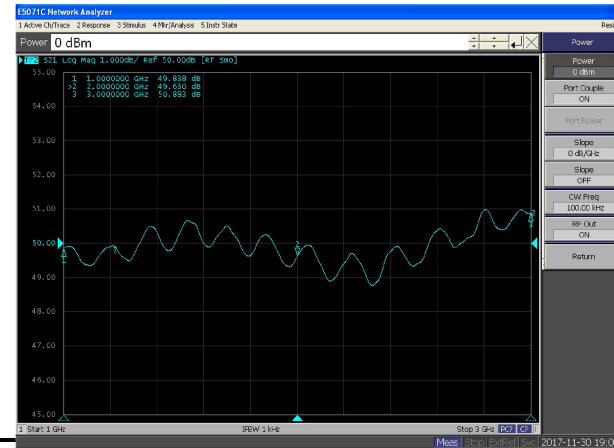
Plot 1 - Small Signal Gain & Input Return Loss

Top Curve: Small Signal Gain @ $P_{IN} = -20\text{dBm}$
 Reference: 52dB, 2dB/div.
 Bottom Curve: Input Return Loss
 Reference: 0dB, 10dB/div.



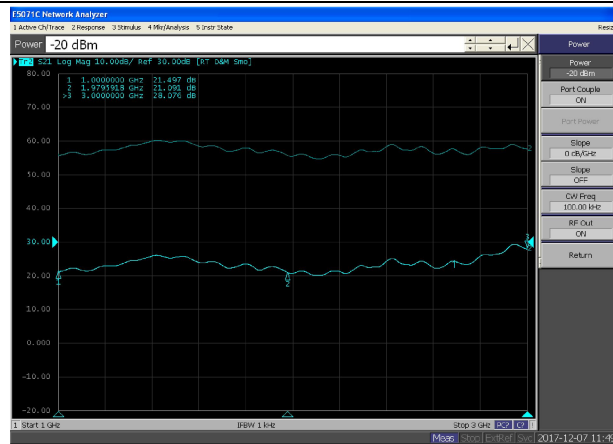
Plot 2 - Leveled ALC Flatness - 100W

Top Curve: ALC Response @ Constant $P_{IN} = 0\text{dBm}$
 Reference: 50dB, 1dB/Div.



Plot 3 -Gain Adjustment Range

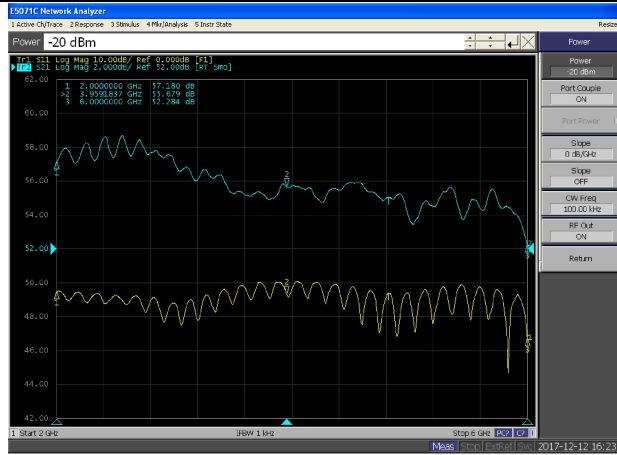
Top Curve: Max Signal Gain @ $P_{IN} = -20\text{dBm}$
 Reference Level: 30dB, 10dB/div.
 Bottom Curve: Minimum Signal Gain @ $P_{IN} = -20\text{dBm}$



PERFORMANCE PLOTS

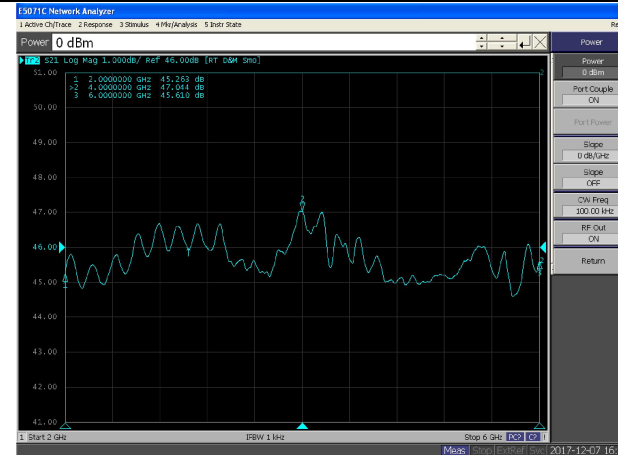
Plot 1 - Small Signal Gain & Input Return Loss

Top Curve: Small Signal Gain @ $P_{in} = -20\text{dBm}$
 Reference: 52dB, 2dB/div.
 Bottom Curve: Input Return Loss
 Reference: 0dB, 10dB/div.



Plot 2 - Leveled ALC Flatness - 40W

Top Curve: ALC Response @ Constant $P_{in} = 0\text{dBm}$
 Reference: 46dB, 1dB/Div.



Plot 3 -Gain Adjustment Range

Top Curve: Max Signal Gain @ $P_{in} = -20\text{dBm}$
 Reference Level: 30dB, 10dB/div.
 Middle Curve: Minimum Signal Gain @ $P_{in} = -20\text{dBm}$

