

Features

- Gain: 75dB Typical
- Saturated Output Power: 55dBm Typical
- Supply Voltage: 110V/220VAC
- 50 Ohm Matched Input / Output



Typical Applications

- Microwave Radio and VSAT.
- Telecom Infrastructure.

| Parameter | Min. | Typ. | Max. | Units |
|---|------|------|------|-------|
| Frequency Range | | 6-18 | | GHz |
| Gain | | 75 | | dB |
| Gain flatness | | ±5.0 | | dB |
| Gain Variation Over Temperature (-40°C ~ +85°C) | | ±3.0 | | dB |
| Input VSWR | | 2.0 | | :1 |
| Output 1dB Compression Point (P1dB) | | 50 | | dBm |
| Saturated Output Power (Psat) | | 55 | | dBm |
| Isolation S12 | | 80 | | dB |

| | | | |
|---------------------------|---|-----------------|--|
| Weight | | Impedance | 50ohms |
| Input / Output Connectors | N-Female | Material | Aluminum/copper |
| Finish | Standard: Gold 40 micron; Nickel 220 micron thickness | Package Sealing | Epoxy Sealing (Standard) |
| | Option: Gold 80 micron; Nickel 180 micron thickness | | Hermetically Sealed (Option with extra charge) |

Absolute Maximum Ratings

| | |
|-----------------------|-----------|
| Supply Voltage | 85-264VAC |
| RF Input Power (RFIN) | Psat-Gain |

Biassing Up Procedure

| | |
|--------|---|
| Step 1 | Connect input and output with 50 Ohm source/load. (in band VSWR<1.9:1 or >10dB return loss) |
| Step 2 | Turn ON AC Power |
| Step 3 | Follow Front Panel Instructions |

Power OFF Procedure

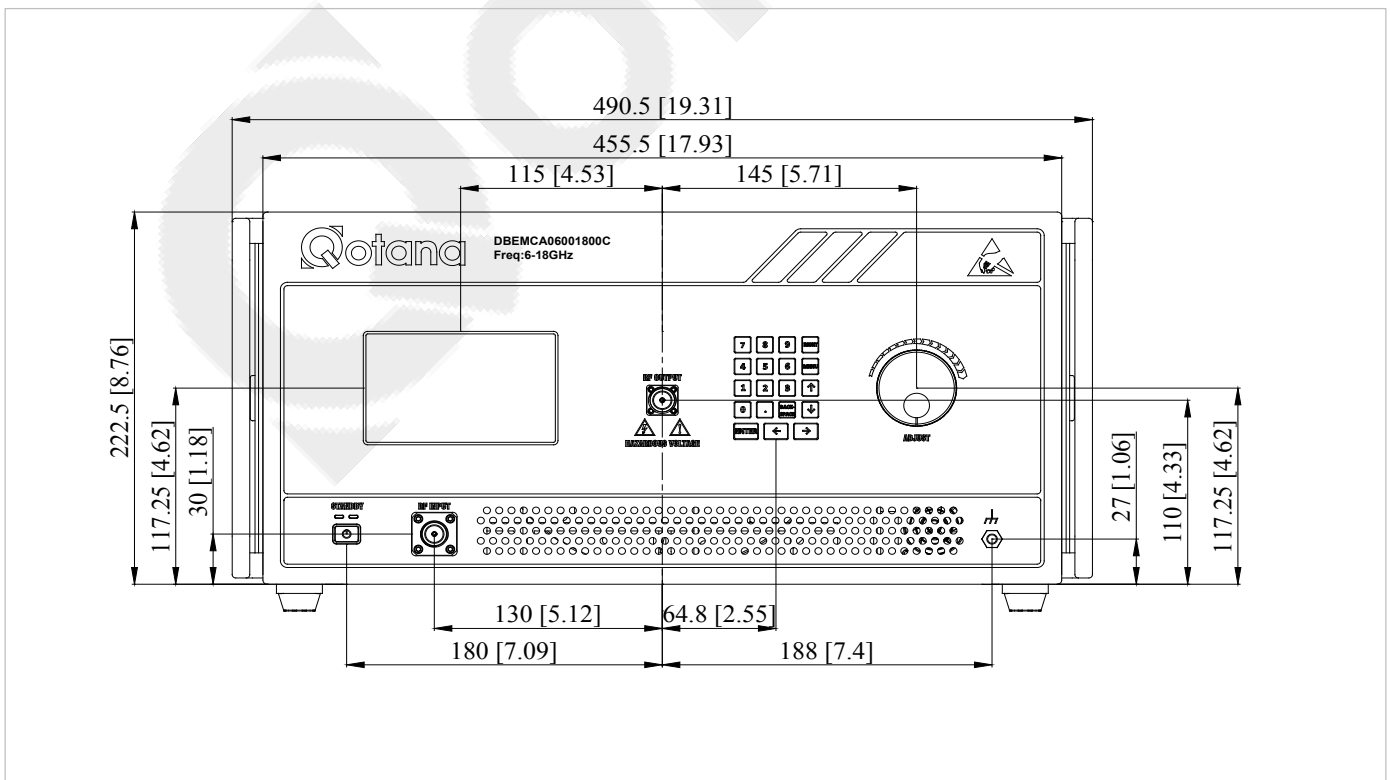
| | |
|--------|-----------------------------|
| Step 1 | Turn OFF RF Output Power |
| Step 2 | Turn OFF AC Power |
| Step 3 | Disconnect Input and Output |

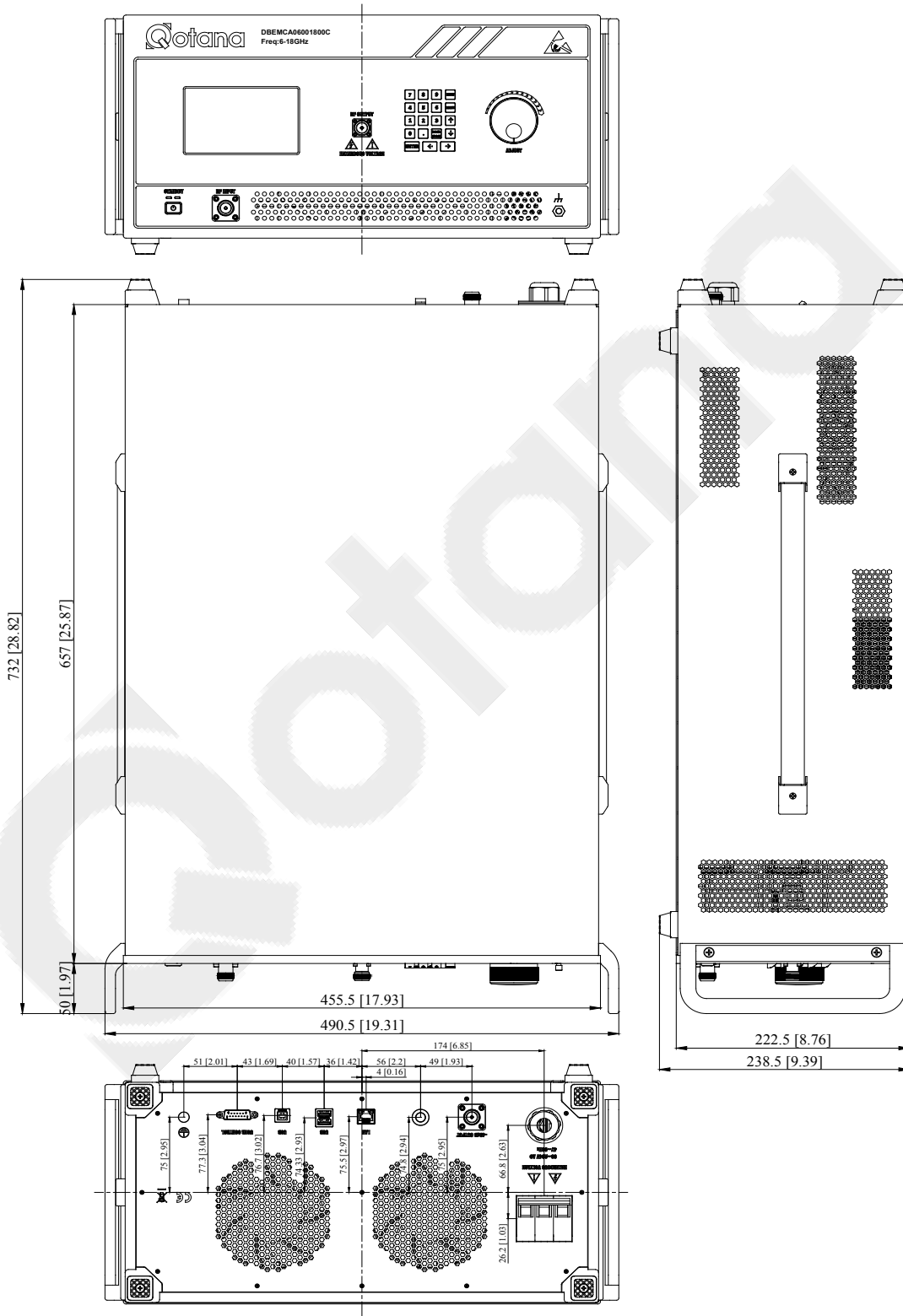
Environmental Specifications

| | |
|-------------------------|---|
| Operational Temperature | -40°C~+85°C (Case Temperature below 85°C) |
| Storage Temperature | -50°C~+105°C |
| Altitude | 30,000 ft. (Epoxy Sealed Controlled environment) |
| | 60,000 ft. 1.0psi min (Hermetically Sealed Uncontrolled environment) (Optional) |
| Vibration | 25g RMS (15 degrees 2KHz) endurance, 1 hour per axis |
| Humidity | 100% RH at 35°C, 95%RH at 40°C |
| Shock | 20G for 11msec half sine wave, 3 axis both directions |

Outline Drawing:

All Dimensions in mm (inches)



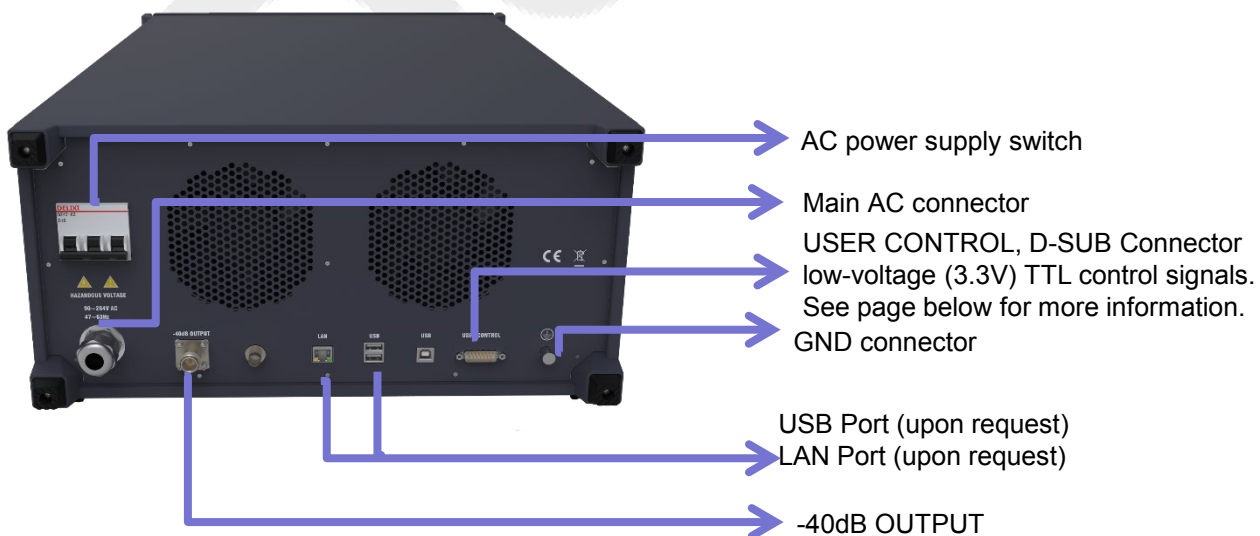


EMC Equipment User Manual

Front Panel



Rear Panel



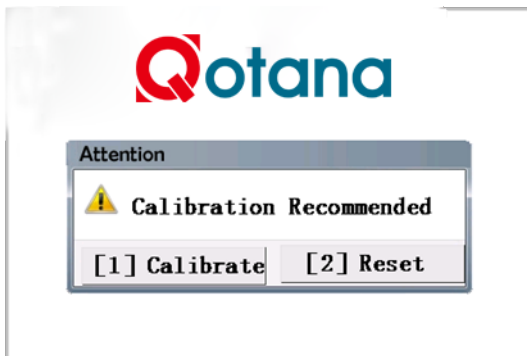
Front Panel LCD Screen Display

Switching On Instrument



Please follow the instructions on the front panel LCD screen after switching on the power. Press "1" on keypad to continue.

Self Calibration Screen

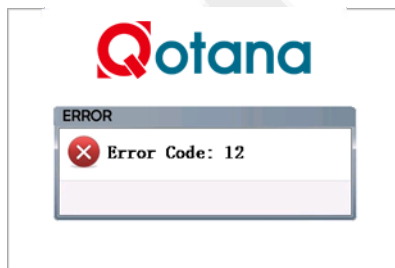


Calibration is may be recommended "[1] Calibrate" to execute instrument self calibration process.

"[2] Reset" to reboot the instrument.

*Please turn OFF RF input power, and terminate the RF output port while applying calibration function

Instrument Protection Alarms

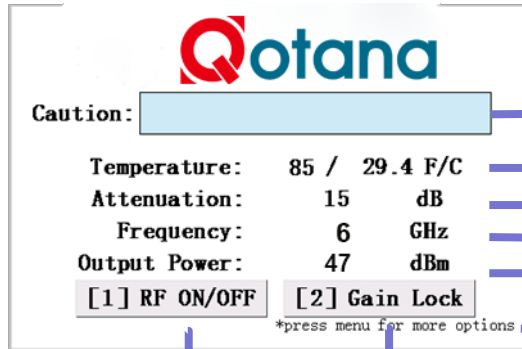


The front panel LCD screen will display the error code or error message when instrument self protection is triggered. Front panel alarm indicator will light up.

To eliminate the error code, press "RESET" on front panel keypad to reboot the instrument and clear the alarms.

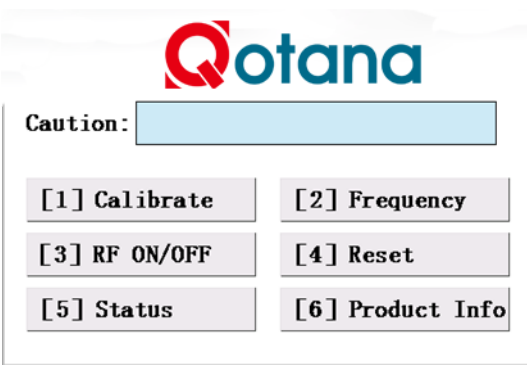
If error code can not be eliminated after reboot, please contact sales@qotana.com.

Instrument Status Display Page



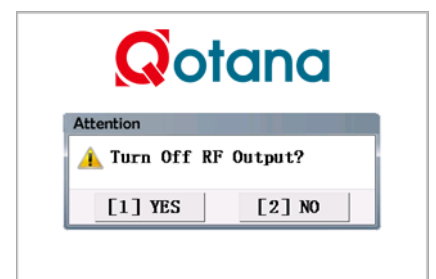
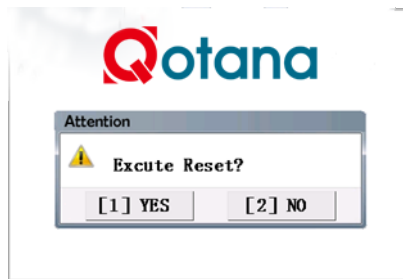
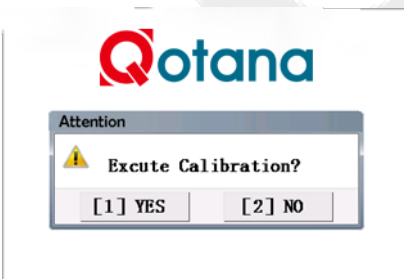
- Indicates instrument RF output status. It will display: Output is Ready to Turn on or RF Output is ON
- Instrument temperature
- RF output attenuation (change with adjustment knob)
- RF input signal center frequency
- Instrument RF output power
- Press "Menu" on keypad to enter instrument functions selection menu
- User can set a constant gain for the unit. Equipment will automatically adjust the gain at certain frequency
- Switches On or Off for instrument RF output port

Instrument Function Selection Page



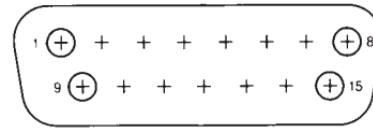
To enter this function selection page, press "Menu" on front panel keypad while the instrument is showing the status page. Press the corresponding number on front panel keypad to select:

- "[1] Calibrate" calibrates the instruments.
- "[2] Frequency" enters RF input signal center frequency.
- "[3] RF ON/OFF" switches the RF output port on or off.
- "[4] Reset" Restarts the instrument (Turns RF output off)
- "[5] Status" enters instrument status display page.
- "[6] Product Info" displays product part number and serial number



All action functions will ask for confirming execution when selected from function selection menu.

Protection Connector Table:



| Pin # | Name | Function | Initial State | Description | Applied |
|-------|----------------------------|--------------|---------------|--|---------|
| 1 | Reset | Control | | Resets PA when logic <u>LOW</u> is applied and released | Yes |
| 2 | Drain Disable | Control | LOW | Applying logic <u>HIGH</u> disables drains of amplifiers | Yes |
| 3 | Gate Disable | Control | LOW | Applying logic <u>HIGH</u> disables gates of amplifiers | Yes |
| 4 | RF IN Over | Indicator | LOW | Pin will be latched to logic <u>HIGH</u> when input signal is over limit | No |
| 5 | Temp Over | Indicator | LOW | Pin will be latched to logic <u>HIGH</u> when amplifier is driven over temperature | Yes |
| 6 | Current Over | Indicator | LOW | Pin will be latched to logic <u>HIGH</u> when drain current limit is reached | Yes |
| 7 | ID Imbalance | Indicator | LOW | Pin will be latched to logic <u>HIGH</u> when an imbalance in the drain current of the combining branches occurs | Yes |
| 8 | PA input power | Indicator | | PA input power is represented by voltage | No |
| 9 | PA output power | Indicator | | PA output power is represented by voltage | No |
| 10 | PA output reflection power | Indicator | | PA output reflection power is represented by voltage | No |
| 11 | VSWR | Indicator | LOW | Pin will be latched to logic <u>HIGH</u> when output reflection is over limit | No |
| 12 | Temp Signal | Indicator | | PA carrier case temperature is represented by voltage | Yes |
| 13 | +5V | Power Supply | +5V | +5V DC is supplied for reference | Yes |
| 14 | GND | Ground | GND | Ground | Yes |
| 15 | GND | Ground | GND | Ground | Yes |

HIGH/LOW voltages are standard TTL signals:

0.0V-0.8V = LOW

2V-5V = HIGH

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