

### Features

- Gain: 55dB 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		6-12		GHz
Gain		55		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)	P <sub>sat</sub> -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**

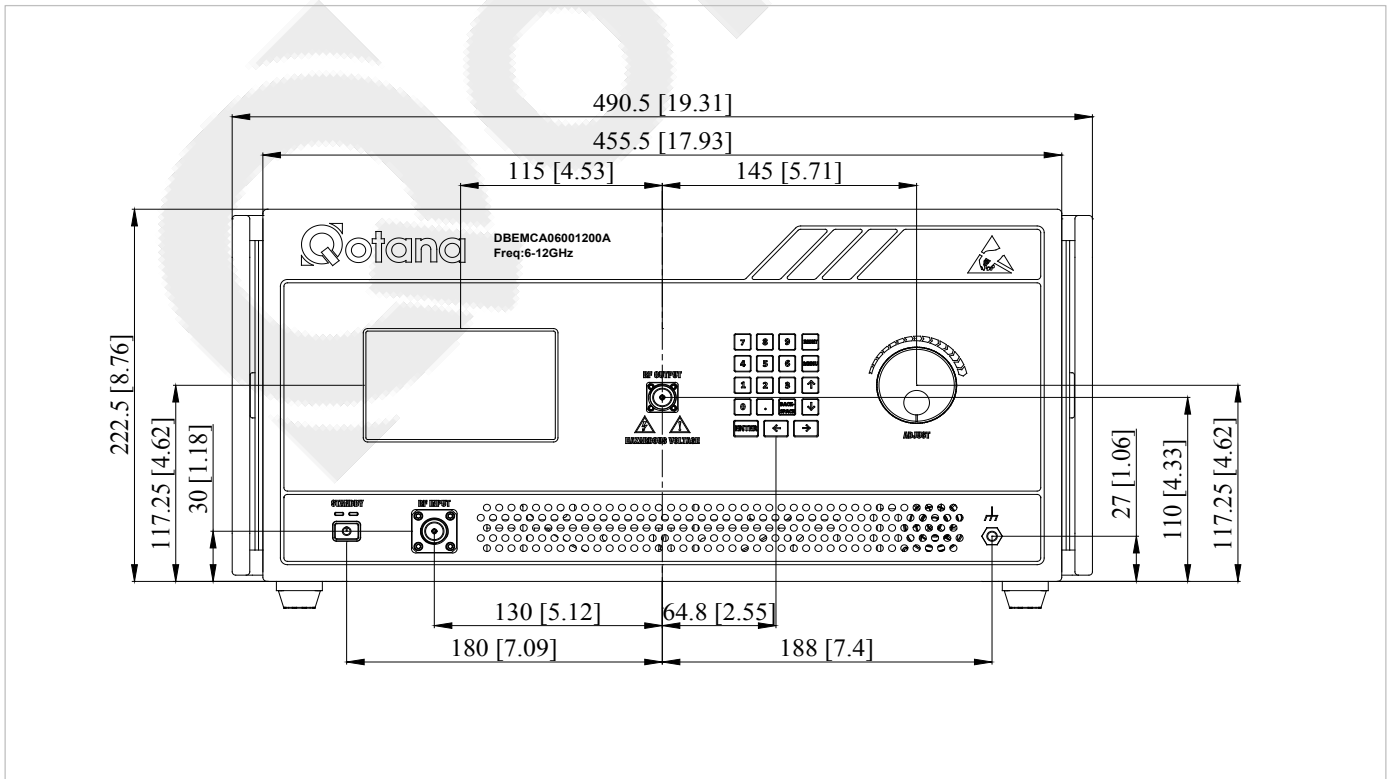
Step 1	Turn OFF RF Output Power
Step 2	Turn OFF AC Power
Step 3	Disconnect Input and Output

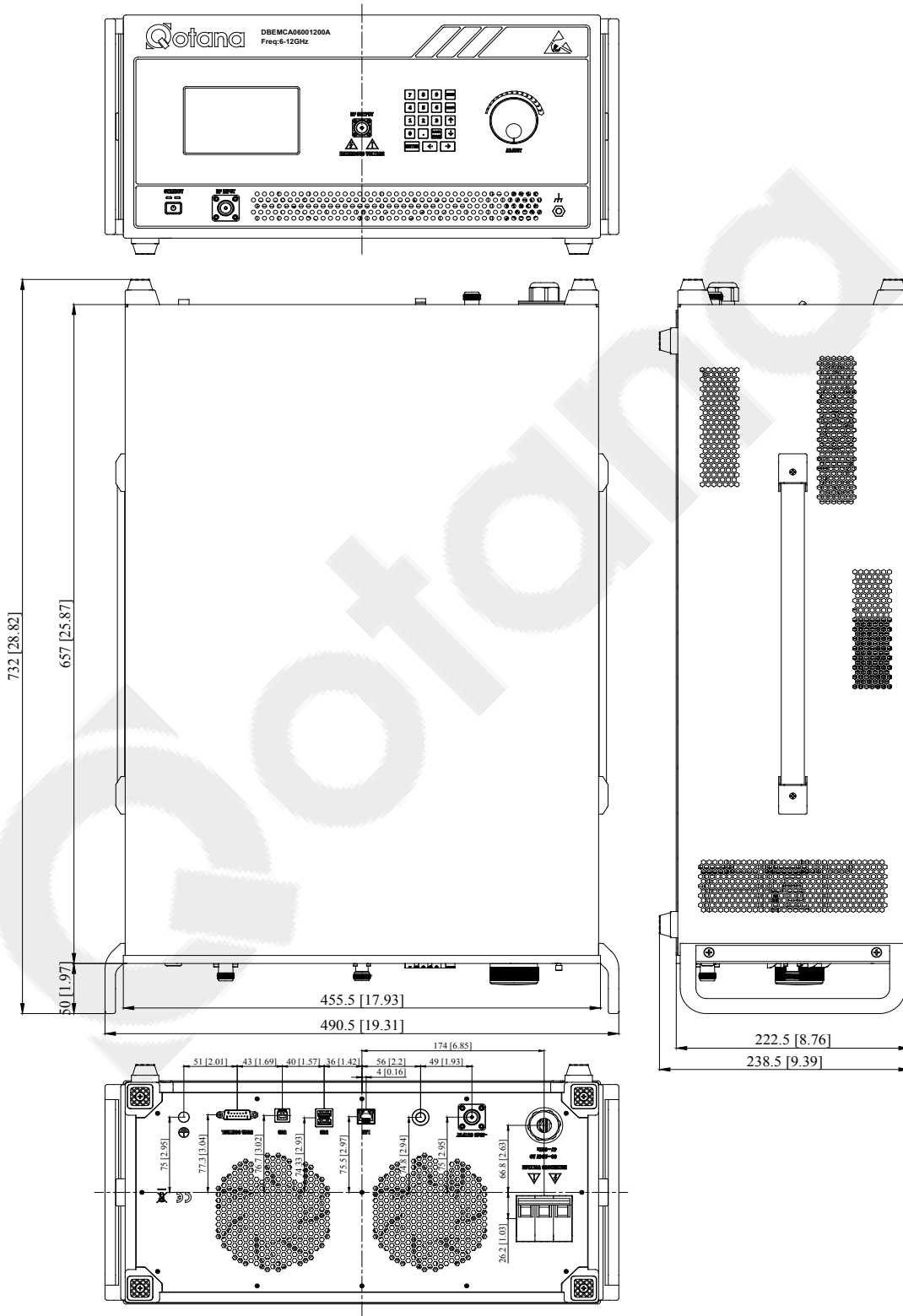
**Environmental Specifications**

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 Un-controlled 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)



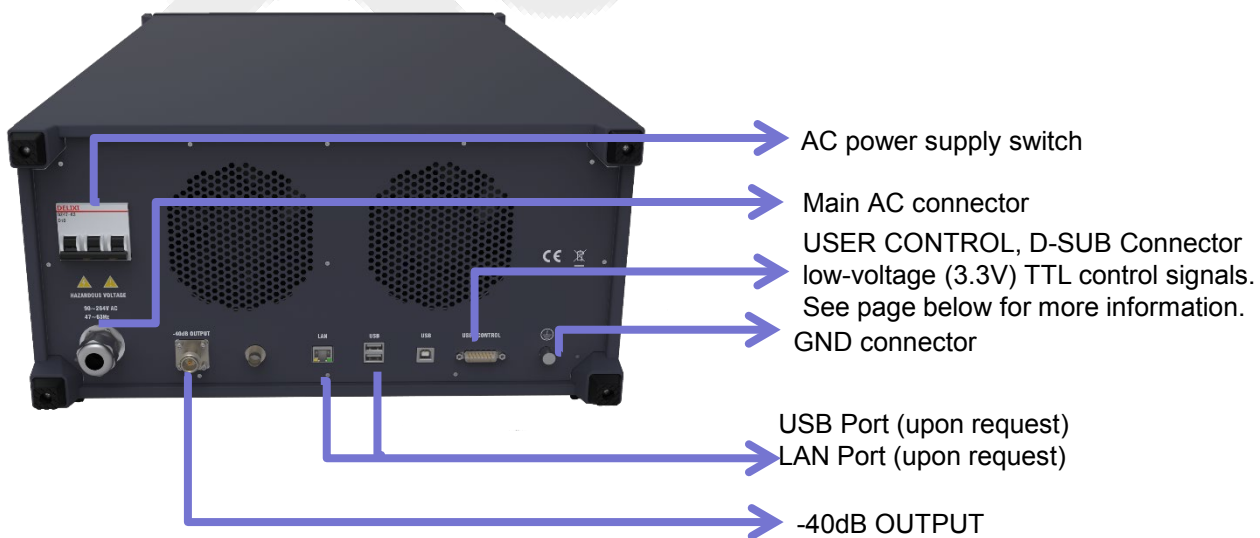


## EMC Equipment User Manual

### Front Panel



### Rear Panel



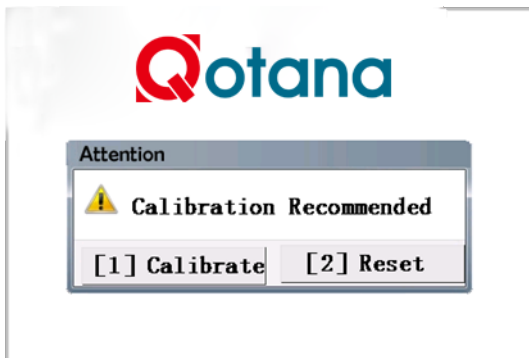
## Front Panel LCD Screen Display

### 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

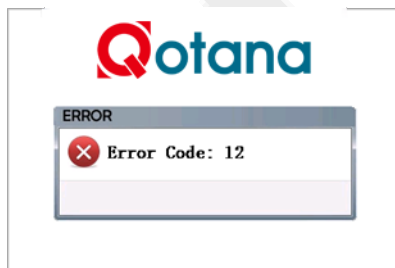


Calibration is may be recommended "[1] Calibrate" to execute instrument self calibration process.

"[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

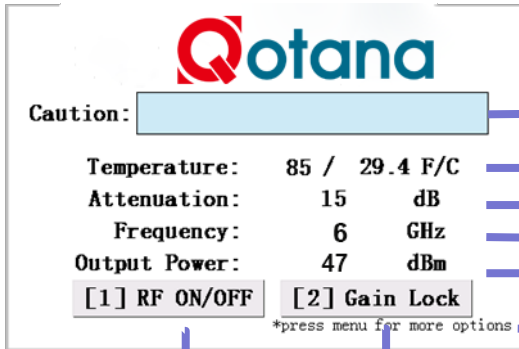


The front panel LCD screen will display the error code or error message when instrument self protection is triggered. Front panel alarm indicator will light up.

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

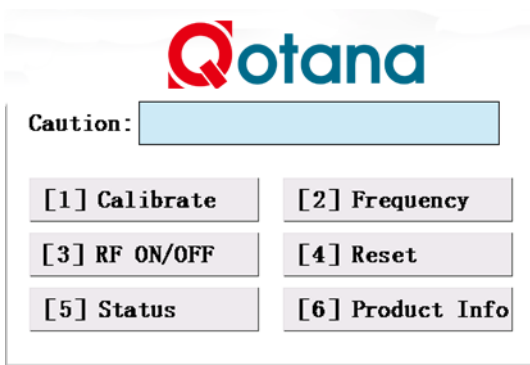
If error code can not be eliminated after reboot, please contact [sales@qotana.com](mailto:sales@qotana.com).

## Instrument Status Display Page



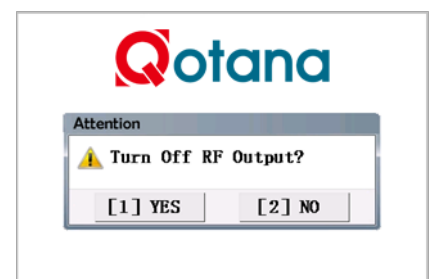
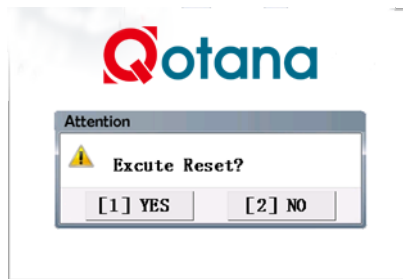
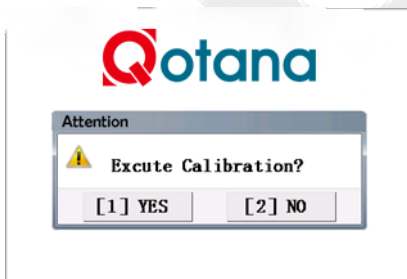
- Indicates instrument RF output status. It will display: Output is Ready to Turn on or RF Output is ON
- Instrument temperature
- RF output attenuation (change with adjustment knob)
- RF input signal center frequency
- Instrument RF output power
- Press "Menu" on keypad to enter instrument functions 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



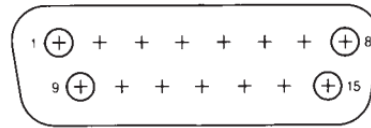
To enter this function selection page, press "Menu" on front panel keypad while the instrument is showing the status page. Press the corresponding number on front panel keypad to select:

- "[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

QOTANA TECHNOLOGIES and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit [www.qotana.com](http://www.qotana.com) for additional data sheets and product information.