

DESCRIPTION

This class AB GaN module is designed for both military and commercial applications. It is capable of supporting any signal type and modulation format, including but not limited to 3-4G telecom, WLAN, OFDM, DVB, and CW/AM/FM. The latest device technologies and design methods are employed to offer high power density, efficiency, and linearity in a small, lightweight package.



FEATURES

- Over / Under / Reverse Voltage Protection
- High Speed Tx/Rx Switching Control
- Temperature Output
- Optional Heatsink
- Manual or Automatic Tx/Rx Switching Available

Specifications subject to change without notice. Typical performance at +28VDC at 25°C in a 50Ω system

Tx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	20		1000	MHz
PSat Power Output	+41.0	+43.0		dBm
Gain	30.0	33.0		dB
Gain Flatness		1.0	2.0	± dB
Input Return Loss	-12			dB
Operating Voltage	+27	+28	+30	VDC
Current Draw		2.0	3.0	A
Tx / Rx Switching Time		1.0	2.0	uS

Rx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
P1dB Power Output		+5.0		dBm
Gain	19.0	20.0		dB
Gain Flatness		2.0	3.0	± dB
Noise Figure		4.0		dB
OIP3		+15.0		dBm
Input Return Loss	-8	-10		dB
Current Draw		200.0		mA

MECHANICAL		
PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	2.57 x 2.57 x 0.895	in
RF Connectors (Input / Output)	SMA-F / SMA-F	--
DC / Control Connector	Circular Locking	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	4-40 Thru Holes	--
Weight	5	oz.
Weight With Heatsink	15	oz.

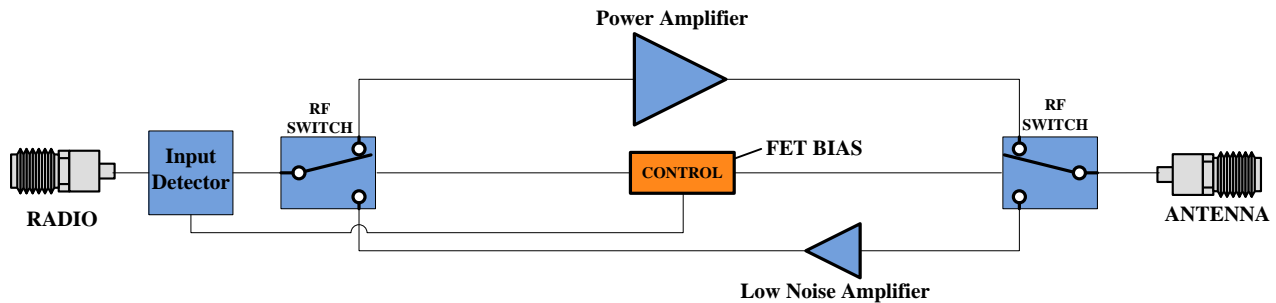
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Humidity Range	0-100		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	16		dBm
PA Baseplate Shutoff Temperature	+90		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		10 PIN RECTANGULAR MALE		
TRIAD CABLE PART NUMBER:		CBL56		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
1	TEMP	Temp Monitor: Temp in DegC = (Vout - 0.5V) *100	Output	Analog
2	GND	Ground	Power	--
3	Tx/Rx	Tx / Rx Switching (+5V = Tx Amp Active / 0V = Rx Amp Active)	Input	5V TTL
4	GND	Ground	Power	--
5	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
6	GND	Ground	Power	--
7	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
8	GND	Ground	Power	--
9	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
10	GND	Ground	Power	--

802-11G (20 MHz BW) DATA RATE VS. OUTPUT POWER			
OFDM MODULATION	DATA RATE	POUT (W) MIN.	EVM
64QAM	54 Mbps	3	≤ -27 dB
16QAM	36 Mbps	5	≤ -21 dB
QPSK	12 Mbps	15	≤ -15 dB
BPSK	9 Mbps	18	≤ -7 dB

See our [application note](#) that describes how this table was calculated and provides notes on in-system performance

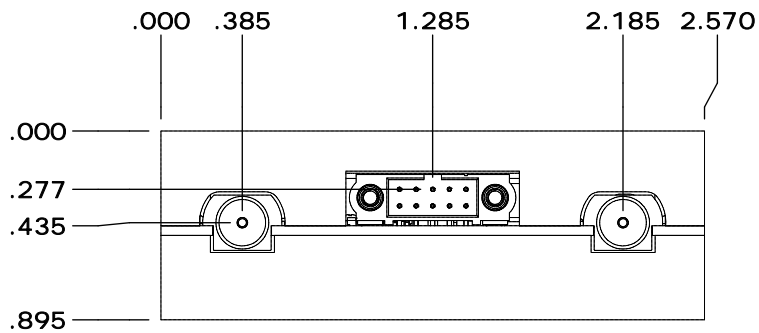
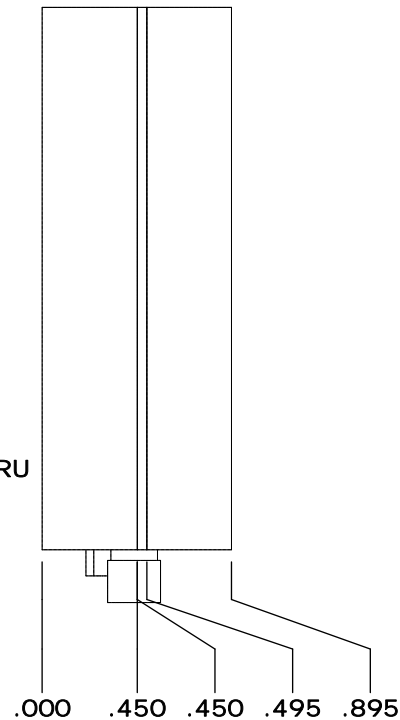
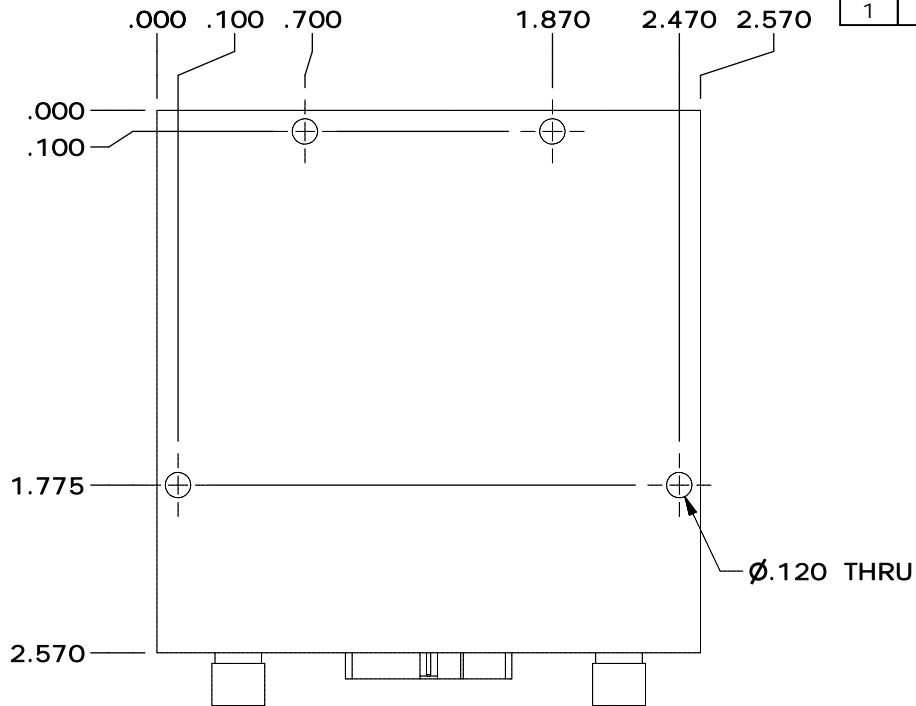
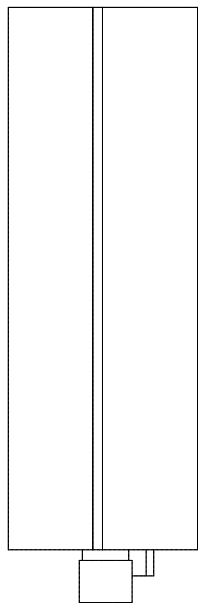
High-Level Block Diagram



Ordering Guide – Configuration Information		
Model Number	Amplifier Option	Heat Sink Option
TTRMXXXX	- XXX	- XXX

Amplifier Options		Heat Sink Options	
Suffix	Description	Suffix	Description
D01	Automatic Tx/Rx Switching	(none)	No Heat Sink Included
D02	Manual Tx/Rx Switching	HS	Standard Heat Sink
DXX	Custom Amplifier Configuration (issued by Triad upon customer request)	HSF	Heat Sink with Integrated Cooling Fan
		HSX	Custom Heat Sink Configuration

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	11/7/17	SC
1	E18319	5/31/18	SC



DRAWN	scopp	11/7/2017
DESIGNED	scopp	9/22/2017
CHECKED		
ENG APPROVED		
MFG APPROVED		



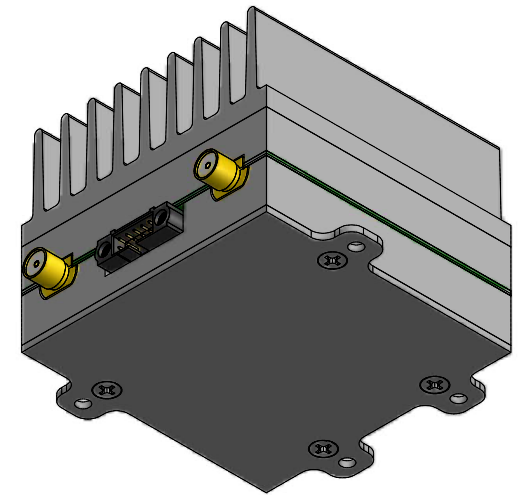
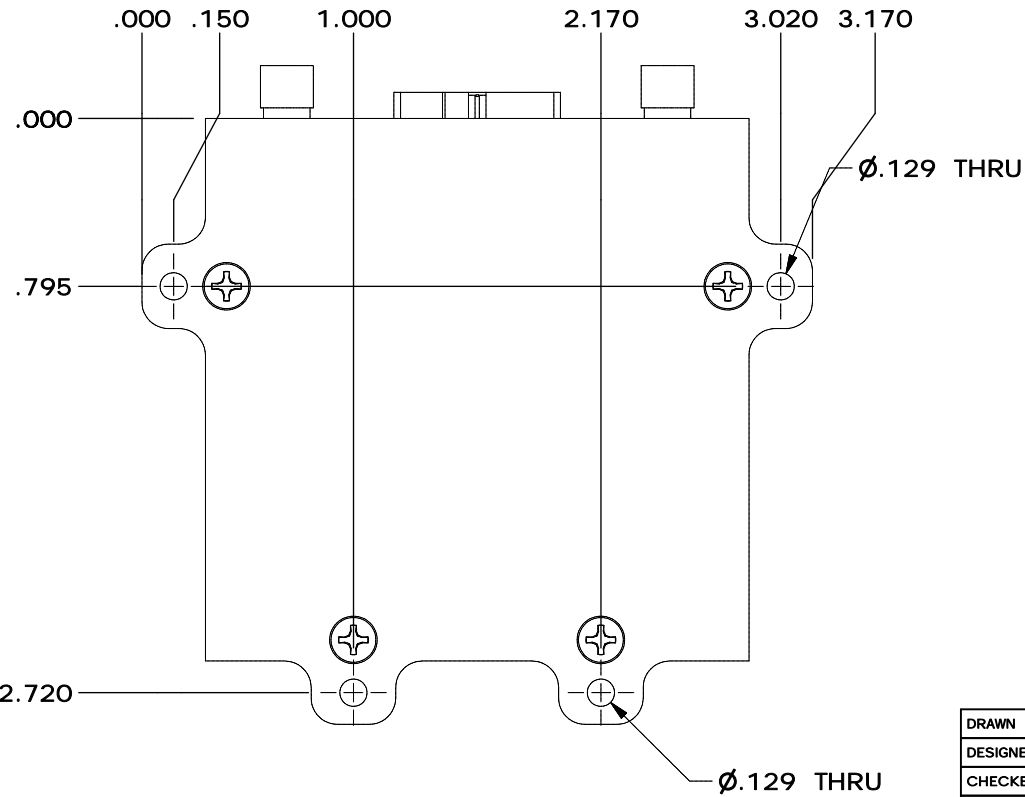
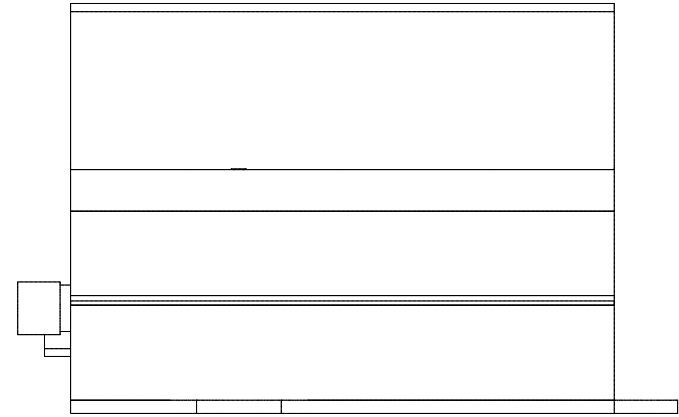
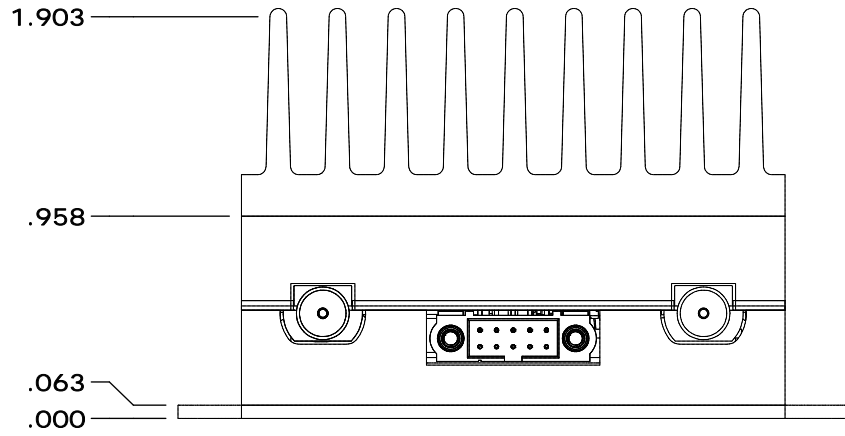
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HOUSING OUTLINE DRAWING 172

DIMENSIONS ARE IN INCHES
UNLESS SPECIFIED OTHERWISE
TOLERANCES
DECIMALS FRACTIONS ANGLES
XX ±.01 ± 1/32 ± 2°
XXX ±.005

SIZE	DWG NO.	REV
A	OL_172	1
SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 2

HEATSINK



DRAWN	scopp	11/7/2017	HOUSING OUTLINE DRAWING 172		
DESIGNED	scopp	9/22/2017	SIZE	DWG NO.	REV
CHECKED			A	OL_172	1
ENG APPROVED			SCALE: NONE	CAGE CODE	SHEET 2 OF 2
MFG APPROVED				67DZ3	