

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

- High Speed On/Off Control
- Over-Temperature Protection
- Temp. Monitor Output
- Manual Tx/Rx Switching (TTL)

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

Tx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	30		2700	MHz
PSat Power Output		+39.0		dBm
Gain		36.0		dB
Gain Flatness		3.0		± dB
Input Return Loss	-12	-15		dB
Operating Voltage	+12		+30	VDC
Current Draw		1.4		A
Tx / Rx Switching Time		1.0	2.0	uS

Rx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
P1dB Power Output		+15.0		dBm
Gain		30.0		dB
Gain Flatness		2.0		± dB
Noise Figure		2.0	3.0	dB
Input Return Loss	-10	-12		dB
Current Draw		200.0	0.0	mA

MECHANICAL		
PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	3.25 x 2.42 x 0.54	in
RF Connectors (Input / Output)	SMP-Male / SMP-Male	--
DC / Control Connector	Rectangular Locking	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	4-40 Through Holes	--
Weight	4	oz.
Weight With Heatsink	8	oz.

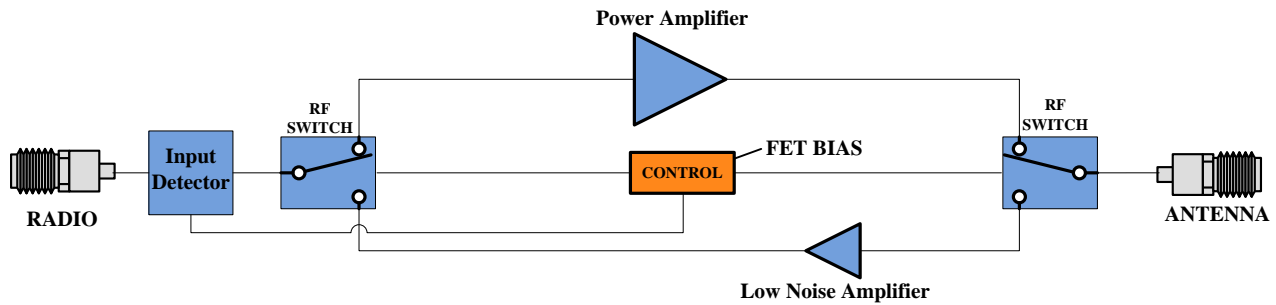
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Humidity Range	0-95		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	8		dBm
PA Baseplate Shutoff Temperature	+85		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		8 PIN RECTANGULAR MALE		
TRIAD CABLE PART NUMBER:		CBL50		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
1	TEMP	Analog Temperature Sensor Output	Power	--
2,4,6	GND	Ground	Power	--
3	Tx/Rx	TTL Hi = Transmit Mode, TTL Lo or No Connection = Receive Mode	Input	5V TTL
5,7	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--
8	SGND	Signal Ground	Input	--

802-11G (20 MHz BW) DATA RATE VS. OUTPUT POWER			
OFDM MODULATION	DATA RATE	POUT (W) MIN.	EVM
64QAM	54 Mbps	1	≤ -27 dB
16QAM	36 Mbps	2	≤ -21 dB
QPSK	12 Mbps	4	≤ -15 dB
BPSK	9 Mbps	8	≤ -7 dB

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

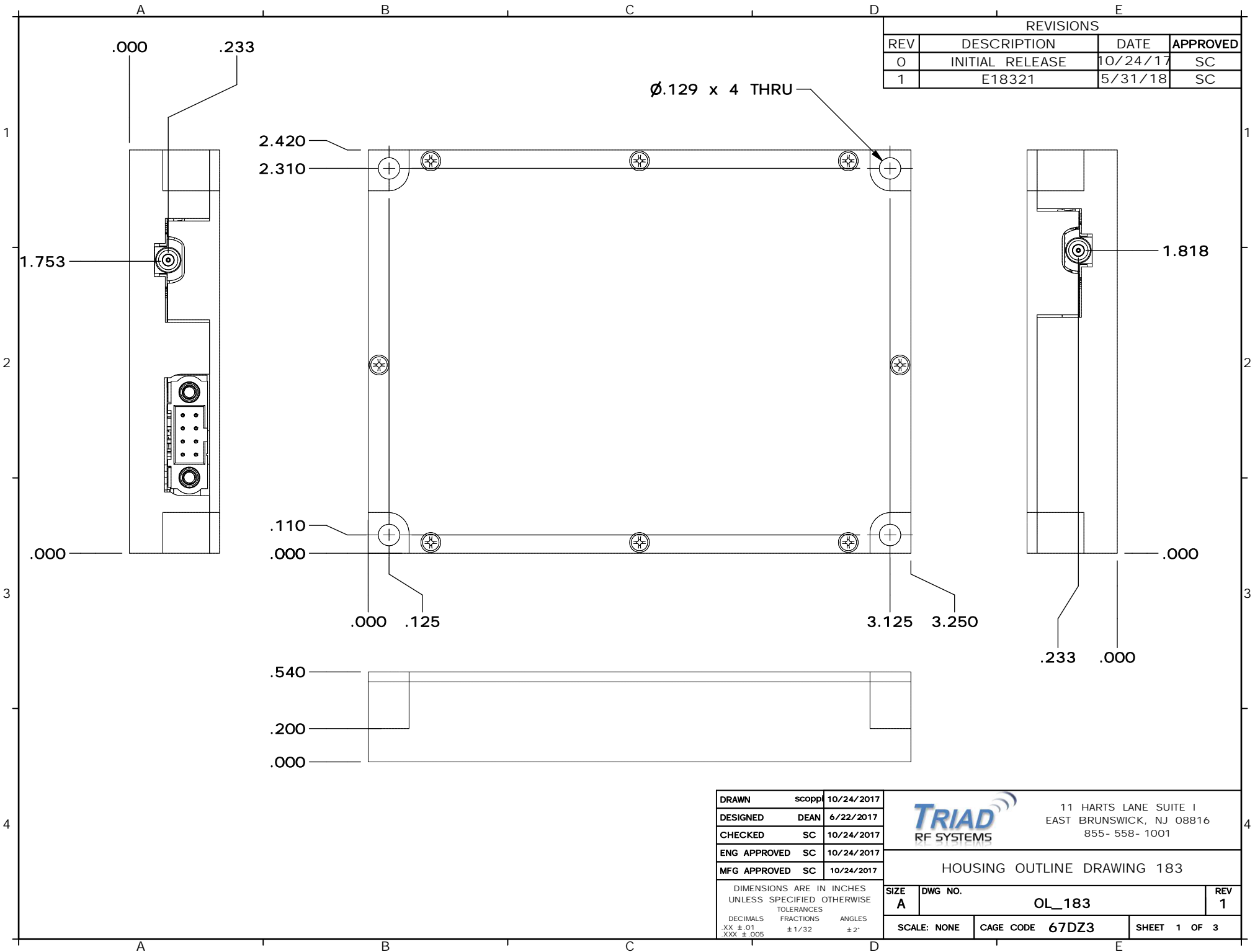
High-Level Block Diagram



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	10/24/17	SC
1	E18321	5/31/18	SC



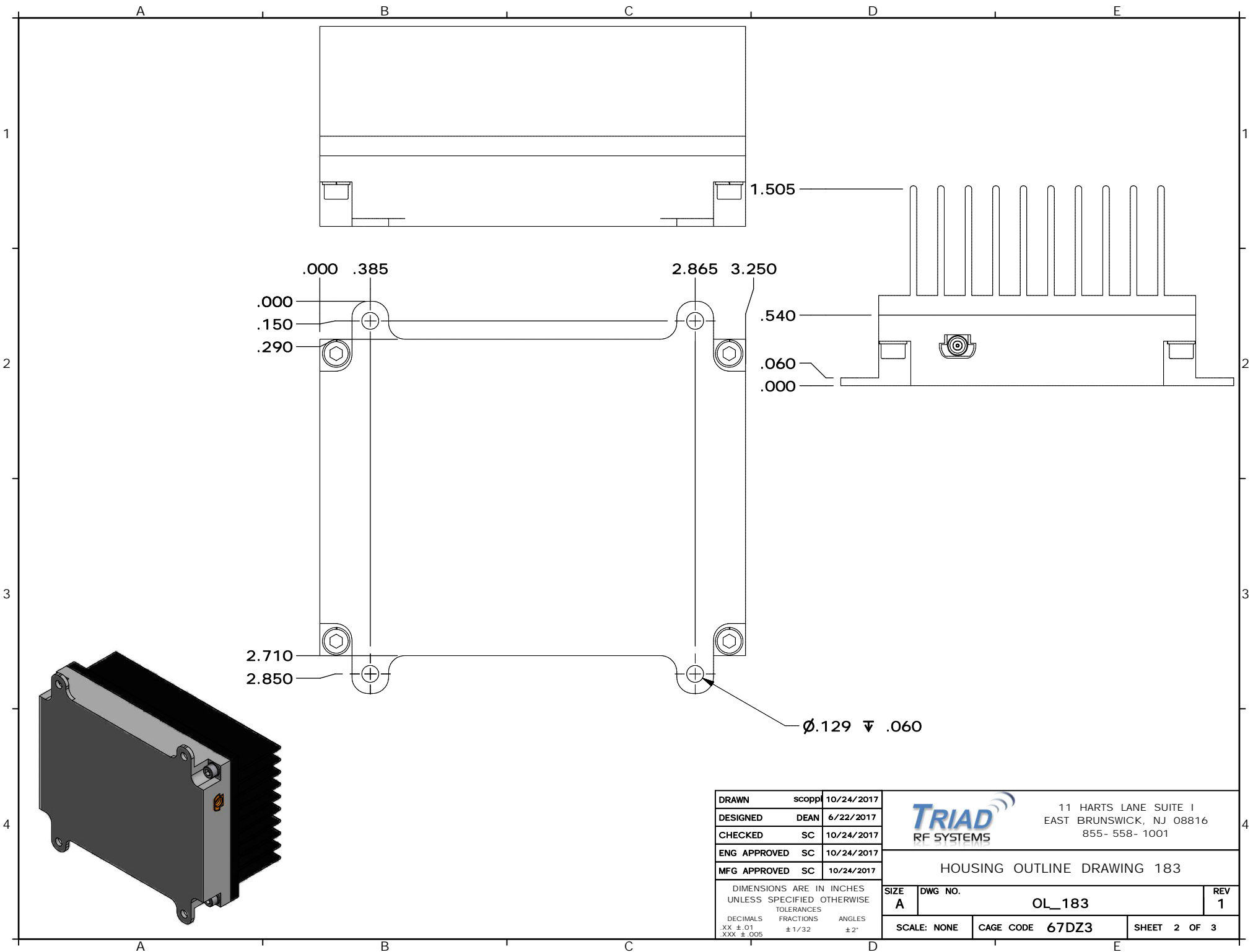
DRAWN	scopp	10/24/2017
DESIGNED	DEAN	6/22/2017
CHECKED	SC	10/24/2017
ENG APPROVED	SC	10/24/2017
MFG APPROVED	SC	10/24/2017



11 HARTS LANE SUITE 1
EAST BRUNSWICK, NJ 08816
855- 558- 1001

HOUSING OUTLINE DRAWING 183

DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE TOLERANCES		SIZE A	DWG NO. OL_183	REV 1
DECIMALS XX ±.01 .XXX ±.005	FRACTIONS ± 1/32	ANGLES ± 2°	SCALE: NONE	CAGE CODE 67DZ3
			SHEET 1 OF 3	



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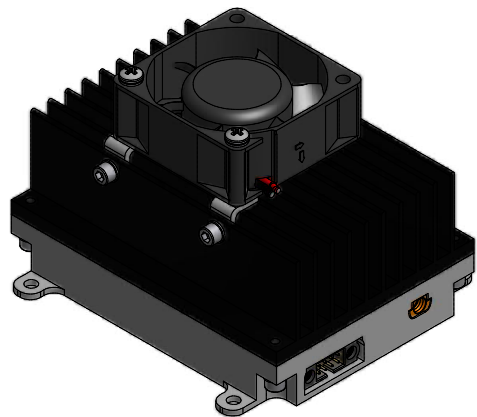
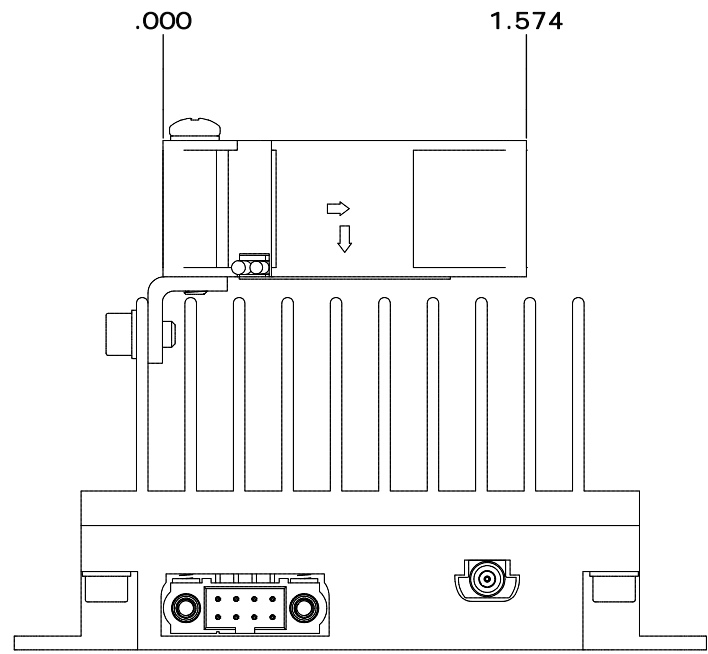
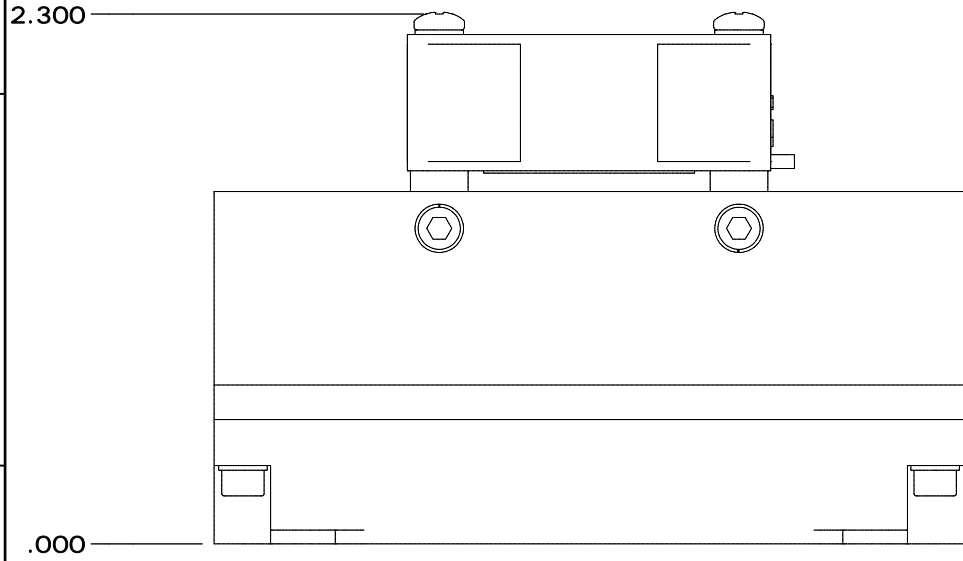
HOUSING OUTLINE DRAWING 183

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

SIZE	DWG NO.	REV
A	OL_183	1
SCALE: NONE	CAGE CODE 67DZ3	SHEET 2 OF 3

A B C D E

1
2
3
4



DRAWN	scopp	10/24/2017
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TRIAD
RF SYSTEMS

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HOUSING OUTLINE DRAWING 183

DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE TOLERANCES			SIZE	DWG NO.	REV
DECIMALS	FRACTIONS	ANGLES	A	OL_183	1
XX ±.01	± 1/32	± 2°	SCALE: NONE	CAGE CODE 67DZ3	SHEET 3 OF 3
.XXX ±.005					

A B C D E