Power Amplifiers

TA1281

4400-5000MHz 50W Power Amplifier

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

Forward Power Measurement
Temp. Monitor Output
Status Monitor
Over / Under / Reverse Voltage Protection
Over-Temperature Protection
Optional Heatsink

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

RF / Electrical				
Parameter	**Min**	**Typ.**	**Max**	**Unit**
Operating Frequency	3300		4200	MHz
PSat Power Output		+47.0		dBm
Gain		28.0		dB
Gain Flatness		1.0		dB [1]
Input Return Loss	-15			dB
Operating Voltage	+12		+28	VDC
Switching Time		1.0	2.0	uS

1 – Gain flatness recorded represents a peak-peak measurement across the **entire operating band**. Gain flatness is typically much lower across significant portions of this band. Consult the gain response plots for details if available.

Triad RF Systems Inc. | 11 Harts Ln, Suite I, East Brunswick, NJ 08816
Tel: 1-(855) 558-1001 x1 | sales@triadrf.com

TRIAD RF SYSTEMS

TA1281

4400-5000MHz 50W Power Amplifier

Mechanical		
Parameter	**Value**	**Unit**
Dimensions (L x W x H)	5.3 x 3.25 x 0.6	in
RF Connectors (Input / Output)	SMA-F / SMA-F	--
DC / Control Connector	21 Pin Micro-D	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	4-40 Thru Holes	--
Weight	13	oz.
Weight with Heatsink	35	oz.

Environmental / Protections			
Parameter	**Min**	**Max**	**Unit**
Operating Temp. (Housing Temp.)	-40	+85	°C
Humidity Range	0-95		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	+17		dBm
PA Baseplate Shutoff Temperature	+ 85		°C

Input/Output Pins		
Amplifier Connector Type:	21 Pin Micro-D Female	
Triad Cable Part Number:	CBL58	
Pin Number	**Label**	**Description**
1-3,12-13	+VDC	Supply Voltage - Range Specified in Datasheet
4	FWD DET	Tx Amp RMS Power Detector
5	TEMP	Temp Monitor: Temp in DegC = (Vout - 0.5V) * 100
6	RAD DET	Radio Input RMS Power Detector
9-11,20-21	GND	+VDC Supply Return
7	Status	Amplifier Status - TTL High = Normal Operation, TTL Low = Error Condition
8	Amp Enable	TTL Hi or No Connection = Enable, TTL Lo = Disable
19	SGND	Signal Ground
14-18	Reserved	Reserved for future use

Configuration Options	
Model Number	**Description**
TA1281	No Heat Sink Included
TA1281 – HS	Standard Heat Sink
TA1281 – HSF	Heat Sink with Integrated Cooling Fan
TA1281 – HSX	Custom Heat Sink Configuration
TA1281 – D0X	Custom Amplifier Configuration (issued by Triad upon customer request)

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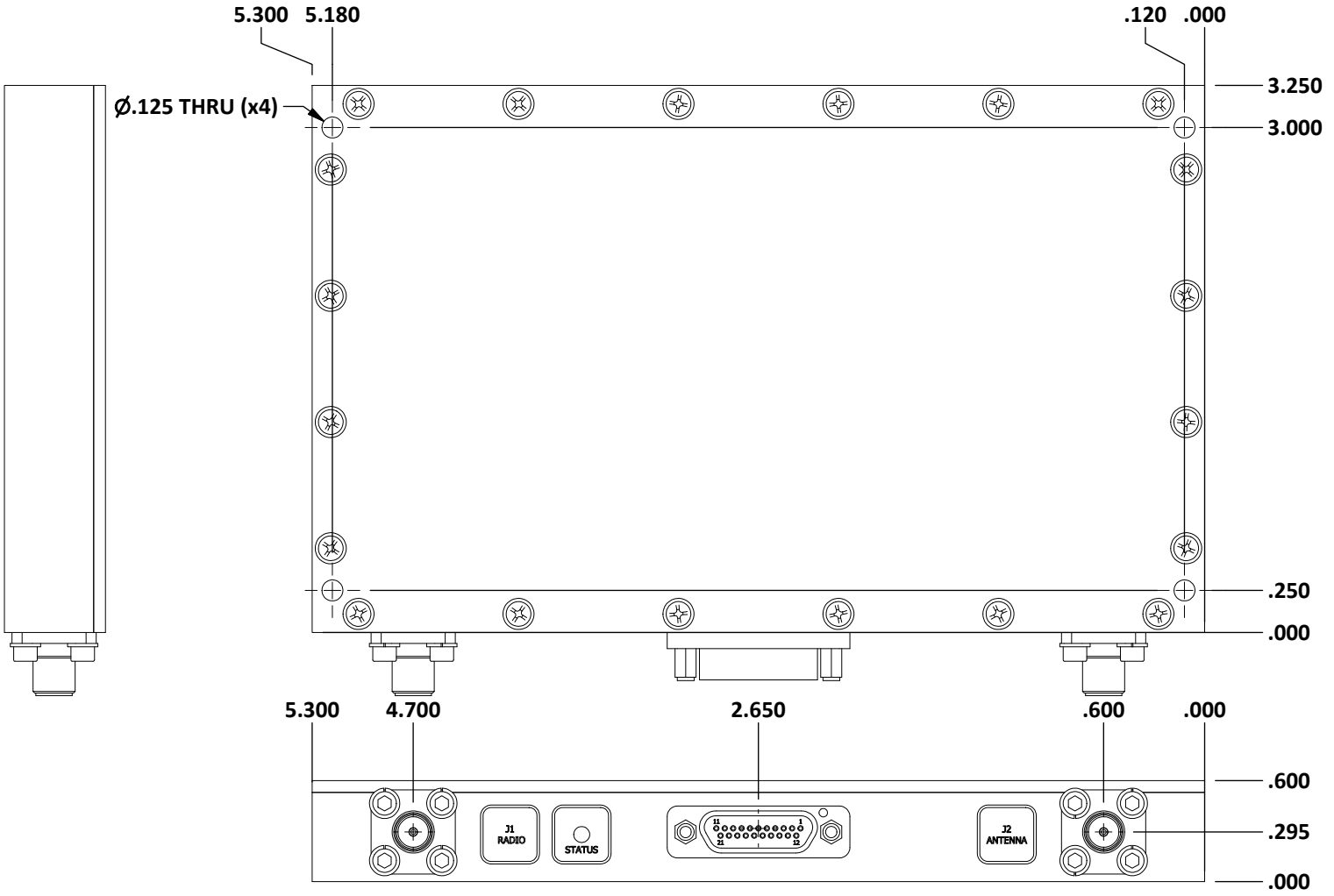
rev 01/16/20

MATERIAL: ALLOY 6061	FINISH: MIL-DTL-5541 TYPE 2 CLASS 3

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	01/31/18	SC
1	E18365	08/13/18	SC
2	E20567	02/18/20	AK



DRAWN	Anthony	2/18/2020
DESIGNED	DMC	5/11/2017
CHECKED		
ENG APPROVED		11/27/2019
MFG APPROVED		11/27/2019

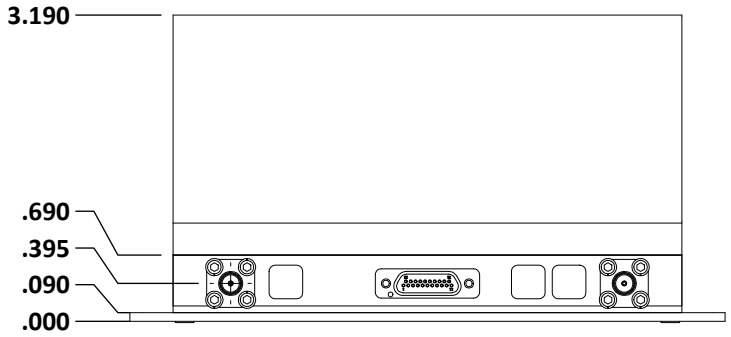
DIMENSIONS ARE IN INCHES
UNLESS SPECIFIED OTHERWISE
TOLERANCES
DECIMALS .XX ±.01 .XXX ±.005 | FRACTIONS ±1/32 | ANGLES ±2°

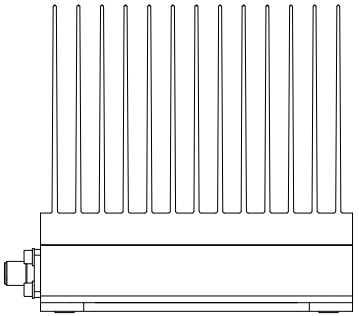
TRIAD RF SYSTEMS
11 HARTS LANE SUITE I
EAST BRUNSWICK, NJ 08816
855-558-1001

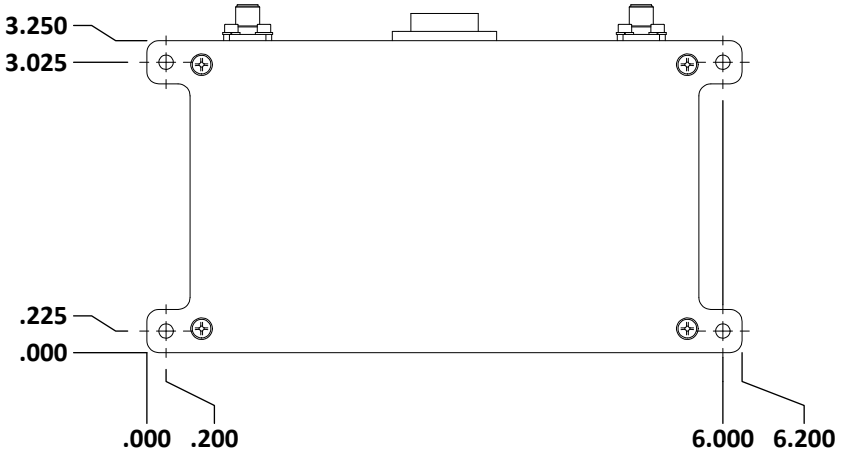
SIZE	DWG NO.	REV
A	OL_170	

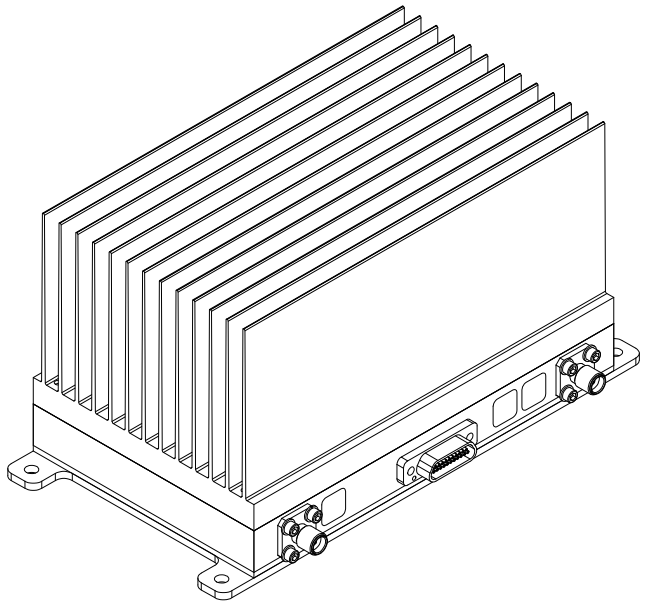
SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 5

HEATSINK









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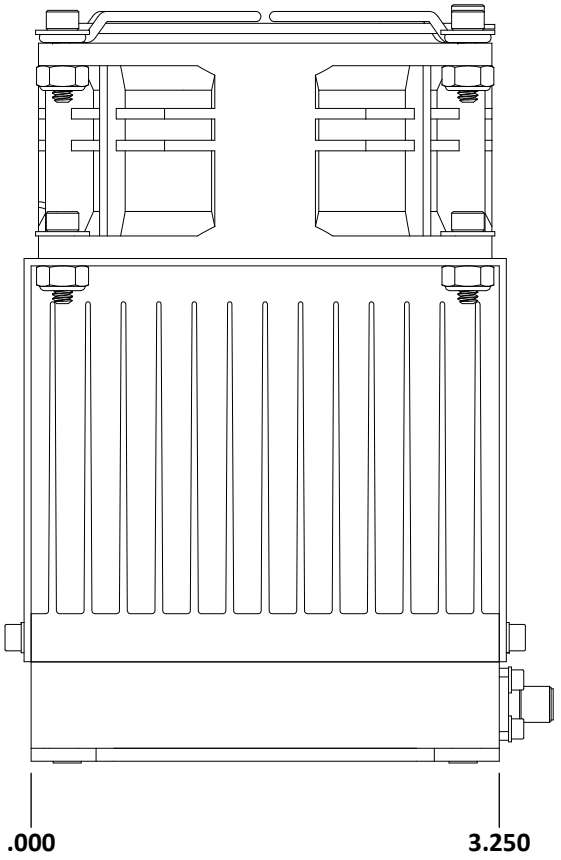
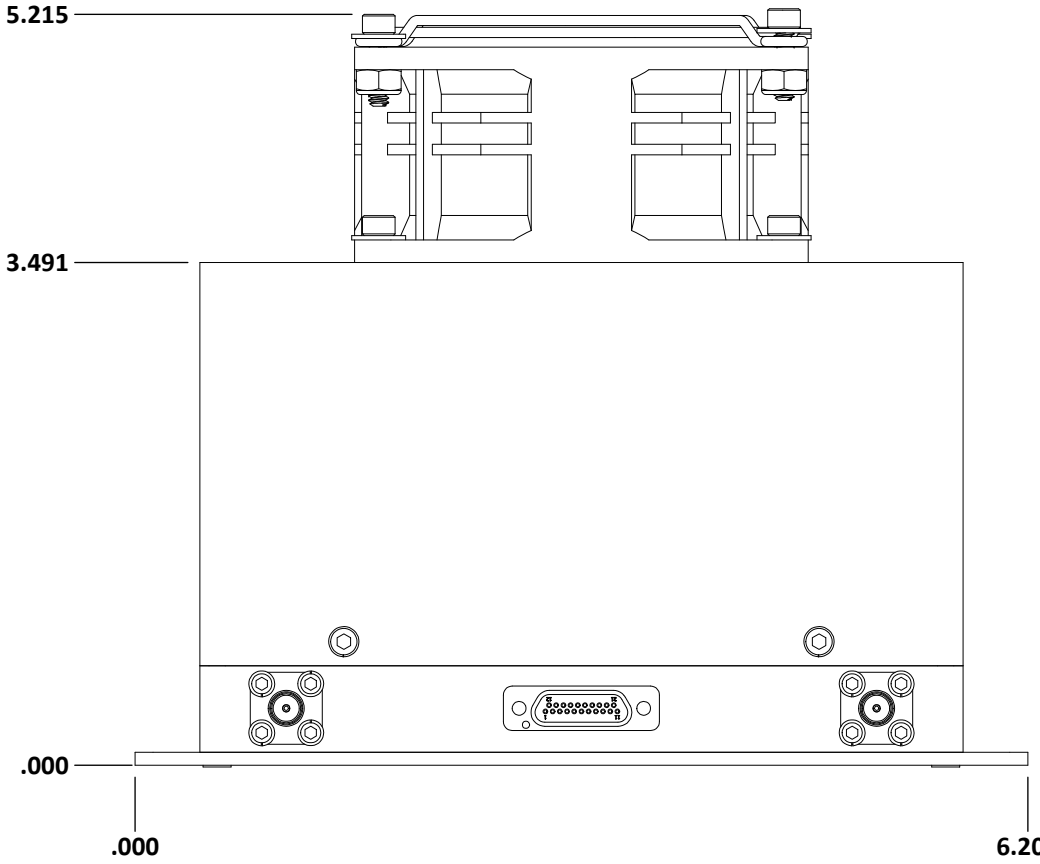
MFG APPROVED		11/27/2019	SCALE: NONE	CAGE CODE 67DZ3	SHEET 2 OF 5





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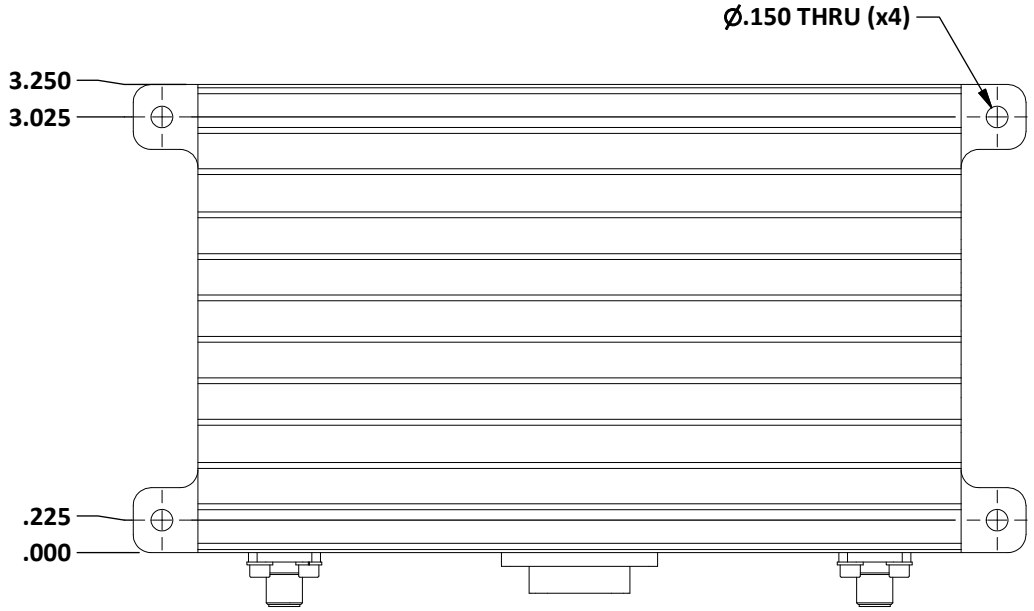
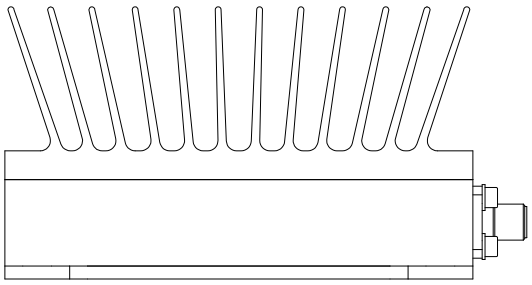
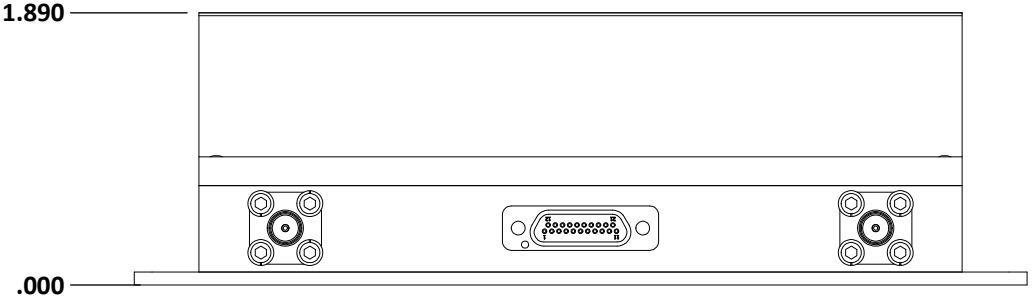
LOW PROFILE OPTION
CONFIRM USABILITY WITH TRIAD BEFORE ORDERING







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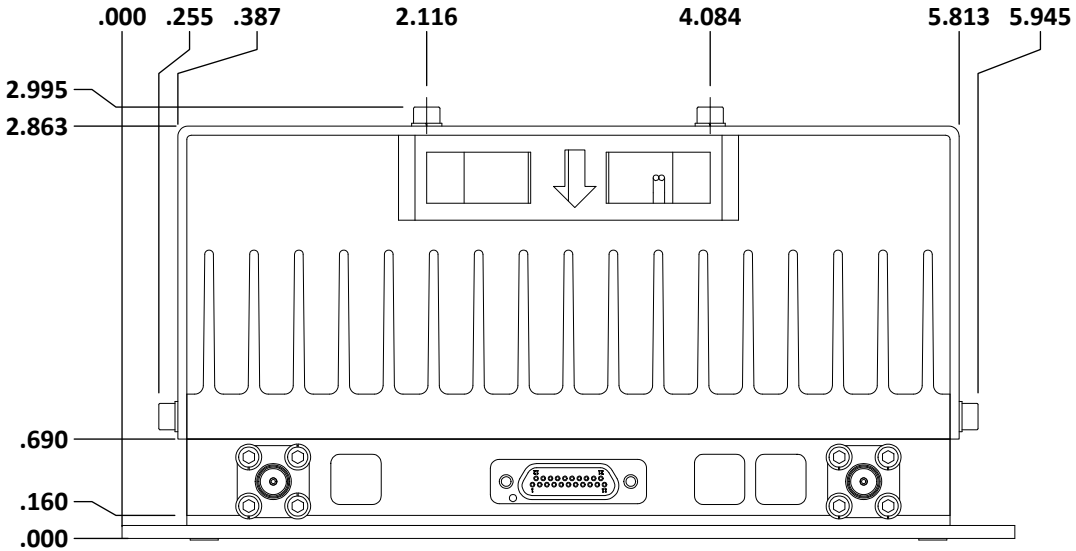
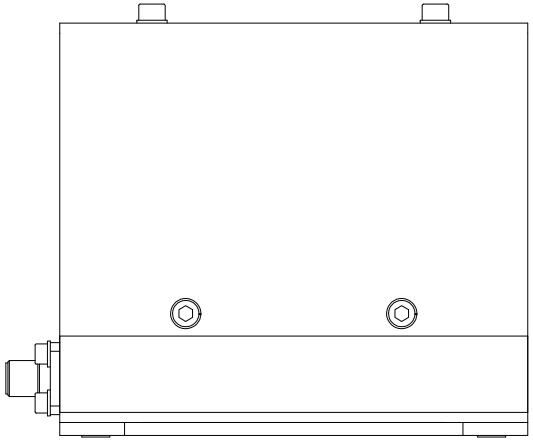
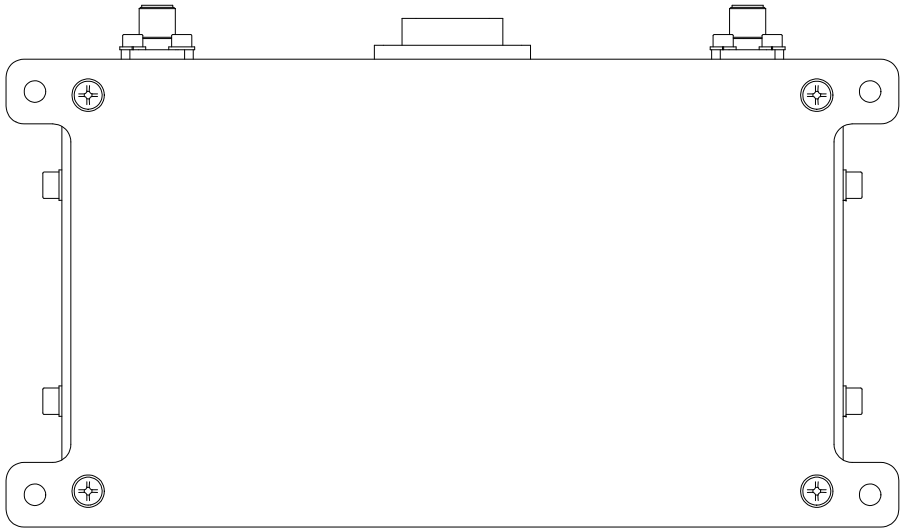
MFG APPROVED		11/27/2019	SCALE: NONE	CAGE CODE 67DZ3	SHEET 4 OF 5

LOW PROFILE HEATSINK FAN







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