

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-Temperature Protection

Temp. Monitor Output

Specifications subject to change without notice. Typical performance at +12VDC at 25°C in a 50Ω system

Tx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	1518		1559	MHz
PSat Power Output		+36.0		dBm
Gain	32.0	33.0		dB
Gain Flatness		3.0		± dB
Input Return Loss	-12	-15		dB
Operating Voltage	+10	+12	+14	VDC
Current Draw		1.6	2.0	A
Tx / Rx Switching Time			2.0	µs

Rx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency (Rx 1)	1518		1559	
Operating Frequency (Rx 2)	1626.5		1675	
P1dB Power Output		+12.0		dBm
Gain	33.0			dB
Gain Flatness		2.0		± dB
Noise Figure		3.0		dB
Input Return Loss		-10		dB
Current Draw		200.0		mA

MECHANICAL		
PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	3.645 x 3.480 x 0.506	in
RF Connectors (Input / Output)	MMCX / MMCX	--
DC / Control Connector	Rectangular Locking	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	4-40 Through Holes	--
Weight	5	oz.

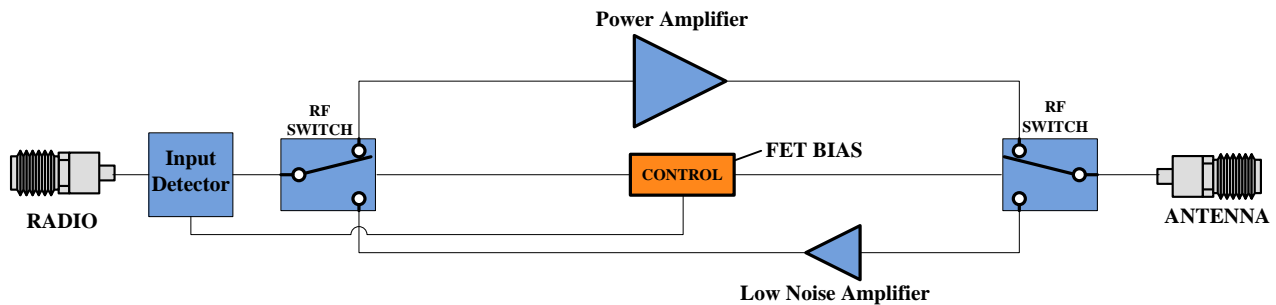
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Storage Temperature	-40	+85	°C
Humidity Range	0-95		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	5		dBm
VSWR Protection	5:1		--
PA Baseplate Shutoff Temperature	+85		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		10 PIN RECTANGULAR		
TRIAD CABLE PART NUMBER:		CBL74		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
1	+VDC	Supply Voltage	Power	--
2	+VDC	Supply Vpltage	Power	--
3	TEMP	Temperature Monitor: Temp in DegC = (Vout - 0.5V) *100	Output	Analog
4	GND	Ground	Power	--
5	GND	Ground	Power	--
6-9	I/O	PA State Control Lines	Input	3.3V TTL
10	SGND	Signal Ground	Power	--

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	2	≤ -15 dB
BPSK	9 Mbps	3	≤ -7 dB

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

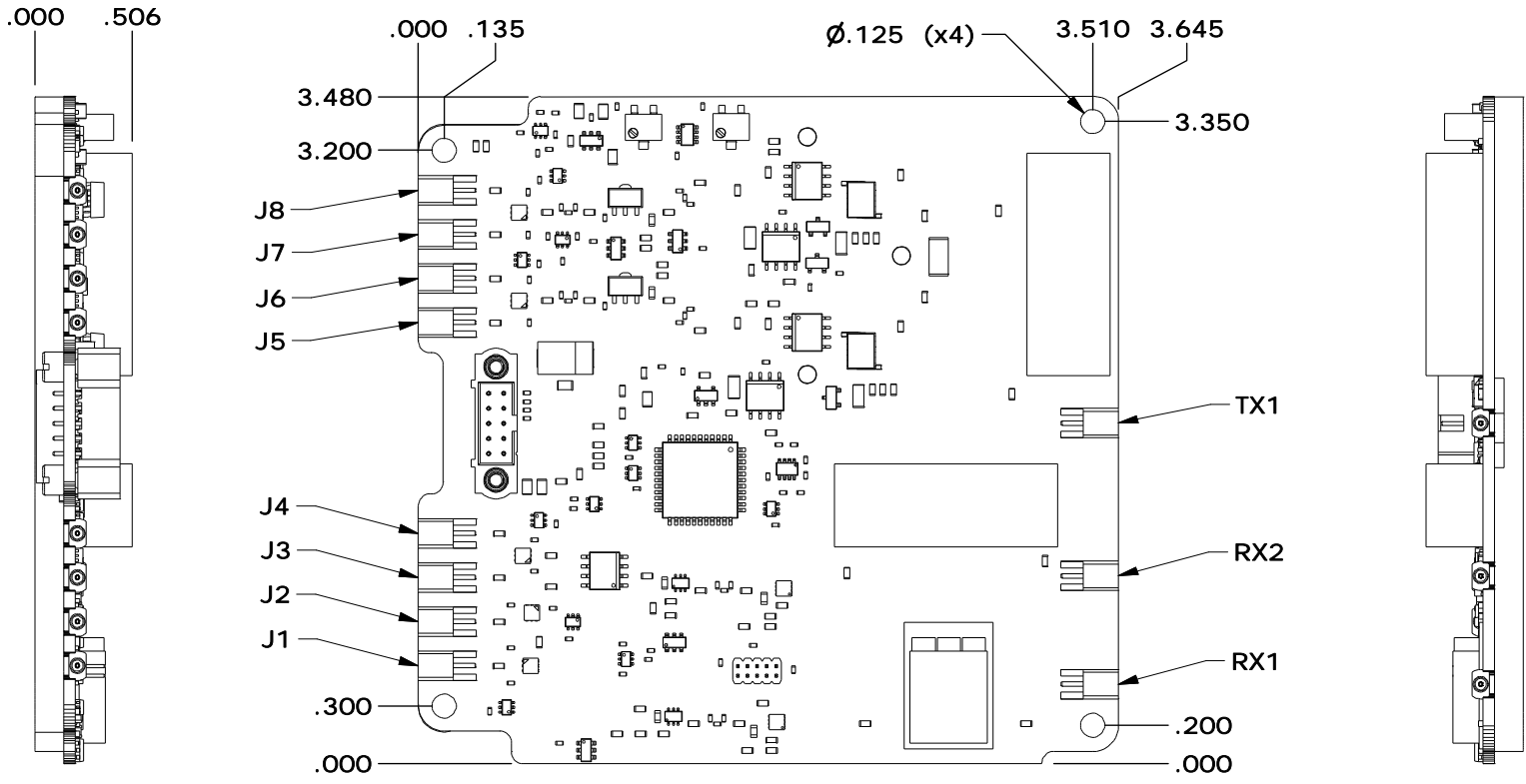
High-Level Block Diagram



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
O	INITIAL RELEASE	3/28/19	DMC



DRAWN	DMC	3/29/2019
DESIGNED	DMC	3/8/2019
CHECKED	DMC	3/29/2019
ENG APPROVED	DMC	3/29/2019
MFG APPROVED	DMC	3/29/2019



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OUTLINE DRAWING OL_209

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

SIZE	DWG NO.	REV
A	OL_209	O
SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 1