

Stealth Microwave's **SMTR2224-11G40-RSS** is a solid state amplifier for use in 802.11g and similar WLAN systems. This SSPA utilizes state of the art LDMOS FET transistors which allow for more efficient operation while still meeting EVM limits. Designed primarily for military use, the design can be applied for various ISM band applications as well.



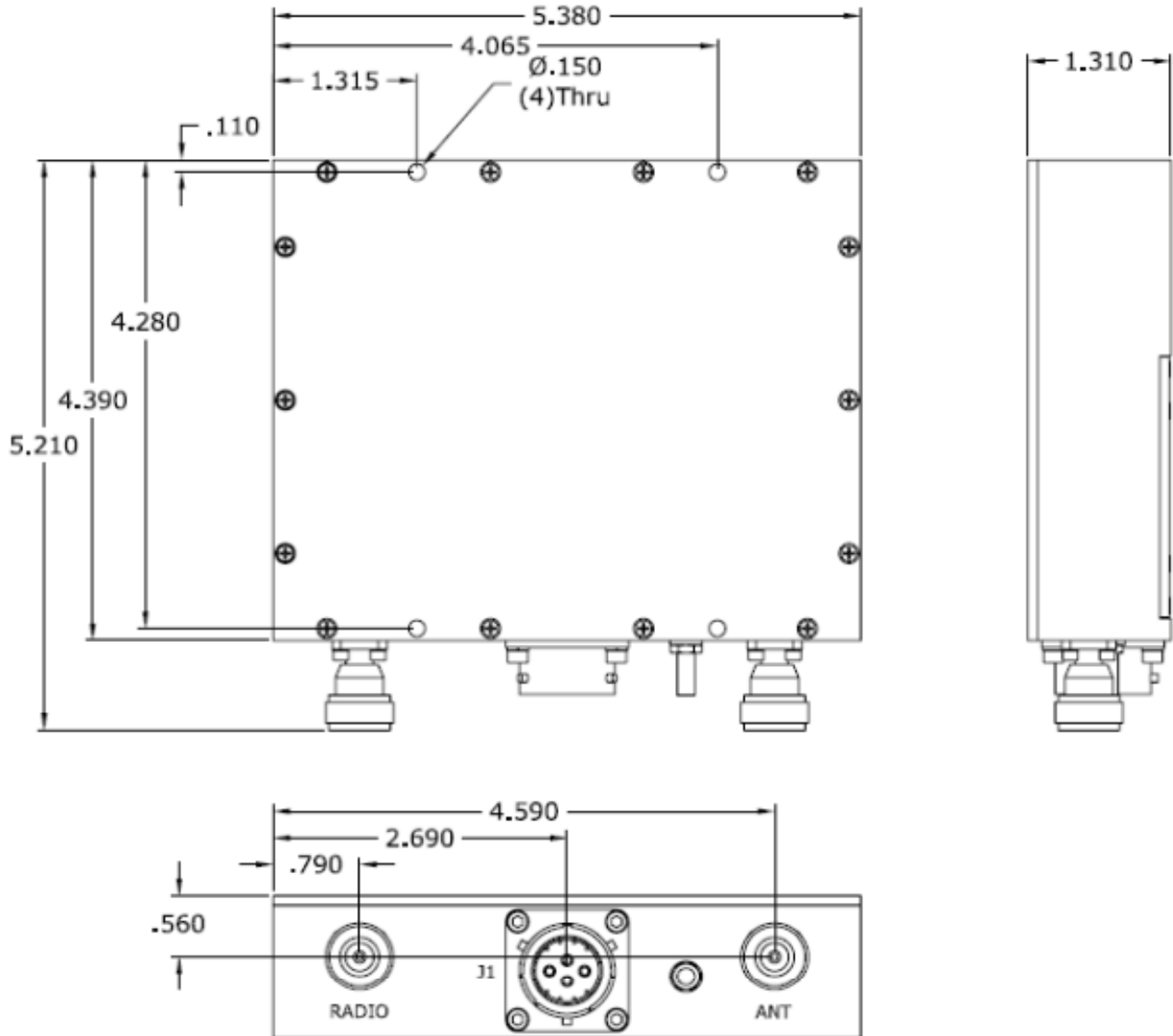
### Features

- Tx/Rx Switching via RS-422
- Integral receive filter
- LNA-Bypass mode
- Built in test monitor output
- Rugged IP66 weatherproof housing
- Various connector options available (RF)

Mechanical Dimensions	4.39 x 5.38 x 1.31 inches
RF Connectors	N Female
Weight	2 lb. 4 oz.
Operating Temperature (Baseplate)	-20°C to +65°C

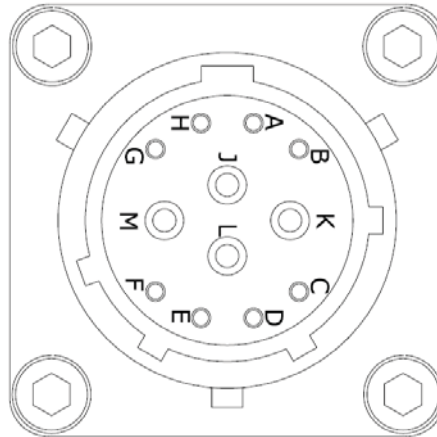
Transmit Path				
Parameter	Specification			
	Min	Typ	Max	Unit
Frequency Range	2200	-	2400	MHz
802.11g Power Out	40			dBm
P1dB Power Out		+47		dBm
EVM at 40dBm (802.11g 54Mbps)	-30			dB
Gain		38.5		dB
Gain Flatness		±.75		dB
Input Return Loss		-16		dB
DC Input Voltage	26	28	30	V
Current Draw		2.7	3.0	A
Receive Path				
Gain		13		dB
P1dB		10		dBm
Noise Figure		3.5	4	dB
Input Return Loss	-16			dB
Current Draw			170	mA
Receive Filtering	See plot			

**DIMENSIONS IN INCHES**



Pin	Description	Values
RADIO	Input Connector (N Female)	+ 1.0 to 1.5 dBm (typ.)
ANT	Antenna Connector (N Female)	+40dBm average (802.11g 54Mbps)
J1	Power / Control Connector	See next page

**J1 CONNECTOR PINOUT  
(ORIENTATION AS PER DRAWING)**



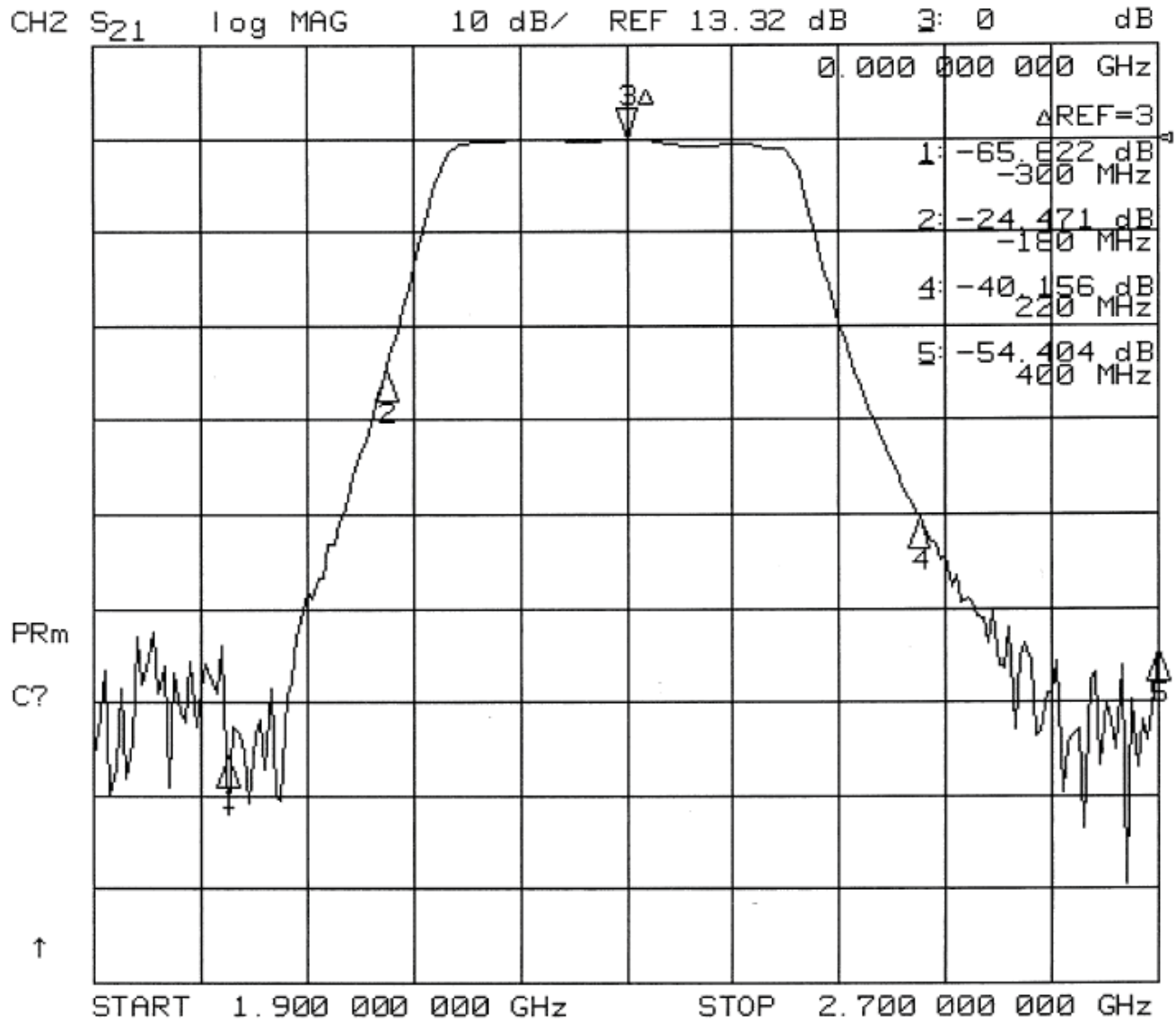
Pin	Description	Values
A	PA On/Off Control (RS-422)	ON/OFF +
B		ON/OFF -
C	LNA Bypass Control (RS-422)	LNA BYPASS +
D		LNA BYPASS -
E	Transmit / Receive Control (RS-422)	RXTX -
F		RXTX +
G	PA Built-in-test (RS-422)	BIT +
H		BIT -
J	GND	--
K	+VDC	+28VDC
L	GND	--
M	+VDC	+28VDC

**EVM MEASUREMENTS – 802.11g 54Mbps**

IEEE 802.11g					
Frequency:	2.4 GHz	Ref Level:	14.8 dBm	External Att:	37 dB
Sweep Mode:	Continuous	Trigger Mode:	Free Run	Trigger Offset:	-10 $\mu$ s
Preamble Type:	OFDM	Modulation:	54 Mbps 64 QAM	PSDU Data Length:	1/0

Result Summary						
No. of Bursts	4 *					
	Min	Mean	Limit	Max	Limit	Unit
EVM All Carriers	2.80	2.83	5.62	2.86	5.62	%
	- 31.07	- 30.98	- 25.00	- 30.88	- 25.00	dB
EVM Data Carriers	2.81	2.84	5.62	2.87	5.62	%
	- 31.03	- 30.93	- 25.00	- 30.86	- 25.00	dB
EVM Pilot Carriers	2.55	2.64	39.81	2.76	39.81	%
	- 31.87	- 31.58	- 8.00	- 31.18	- 8.00	dB
IQ Offset	- 38.17	- 38.15	- 15.00	- 38.12	- 15.00	dB
Gain Imbalance	- 0.14	- 0.12		- 0.10		%
	- 0.01	- 0.01		- 0.01		dB
Quadrature Error	0.36	0.37		0.38		°
Center Frequency Error	- 25.85	- 27.14	$\pm$ 60000	- 27.93	$\pm$ 60000	Hz
Symbol Clock Error	- 0.79	- 1.64	$\pm$ 25	- 2.24	$\pm$ 25	ppm
Burst Power	40.23	40.23		40.23		dBm
Crest Factor	8.54	8.58		8.61		dB

**Rx FILTER RESPONSE**



**Rx NOISE FIGURE**

Average:	1	Auto Ref Level	On	Image Rejection	...
Current Value					
RF:	2.4 GHz	ENR	6.43 dB	NF:	3.43 dB
LO:	...	Loss In	0 dB	Noise Temp.	348.77 K
IF:	...	Loss Out	0 dB	Gain	11.18 dB

**Noise Figure**

Ref -56.4 dBm

SWT 100 ms

Marker[Noise] 3.429 dB

2.4 GHz

