



Longer Range | Higher Data Rates | Lowest SWaP

The THPR1012, a Triad High Power Radio (THPR), contains a Silvus Streamcaster SC4210-235-O OEM radio at its core and combines with our high-power RF subsystems in a low SWaP package. This 2 channel, S-Band amplified radio integrates the necessary Silvus radio, RF amplification, control circuitry, and interfaces to achieve higher RF output power, greater throughput, and longer link distances than the stand-alone radio. Offering +12 to +28 VDC Input Voltage, this THPR contains BDAs, and RF filtering, with link diagnostics.

THPR1012

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THPR SERIES FEATURES

- Fully Integrated High-Power RF Sub-System & Radio
- Extended Range/Data Rate over Stand-Alone Radio
- Wide Input Voltage, Single DC Supply

THPR SERIES APPLICATIONS

- Long Distance High Data Rate ISR Links
- UAS, UGV, and USV Video/Data Links
- Military MANET
- Maritime High-Throughput LOS/NLOS Systems
- Point-To-Point and Mesh Networking



FEATURES

LEDs

The THPR1012 features 2 LEDs, 1 for the internal BDA and 1 for the Silvus radio.

BDA LED

Red - BDA fault

Green - Unit powered ON and operational

Silvus LED

Red - Radio in the Process of Booting Up

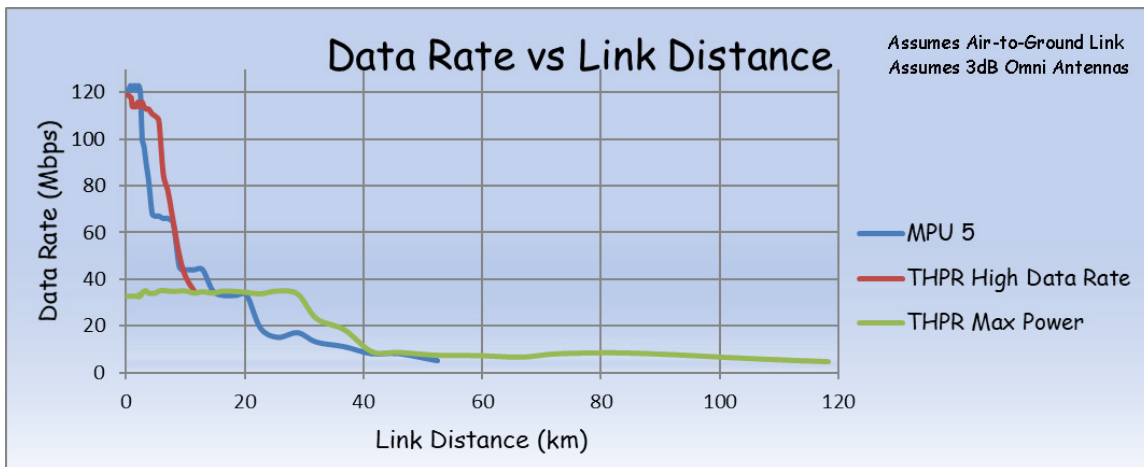
Flashing Green - Radio is fully booted but not wirelessly connected to any other radio

Green - Radio is wirelessly connected to at least one other radio

Flashing Red - Spectrum Scan in Progress

LINK DISTANCE CAPABILITIES

The chart below provides estimates for our THPR series' achievable link distances, based on typical bandwidth needs and antenna configurations. [Contact Triad](#) for our expert ISR link team to assess your link requirements.



CHARACTERISTICS/SPECIFICATIONS

RF Performance Specifications

Parameter	Min.	Typ.	Max	Unit	Notes
Operating Frequency	2200	—	2500	MHz	Operating frequency of SC4210-235-O
Power output per Channel (Low Data Rate)	—	15	—	W	Typical RF output power per stream (2 total) achievable by the system when the SC4210 is operating at a low data rate MCS.
Power output per Channel (High Data Rate)	—	4	—	W	Typical RF output power per stream (2 total) achievable by the system when the SC4210 is operating at a high data rate MCS.

Electrical Specifications

Parameter	Min.	Typ.	Max	Unit	Notes
Supply Voltage Range	+12	+28	+28	VDC	—
Average Operating Current Draw (Idle)	—	.51	—	A	+28V supply voltage.
Average Operating Current Draw (Low Data Rate)	—	—	3.38	A	+28V supply voltage, RF power is set to maximum of 15W per Stream operating at a low data rate MCS.
Average Operating Current Draw (High Data Rate)	—	—	1.07	A	+28V supply voltage, RF power is set to maximum of 4W per Stream operating at a high data rate MCS.

Environmental Specifications

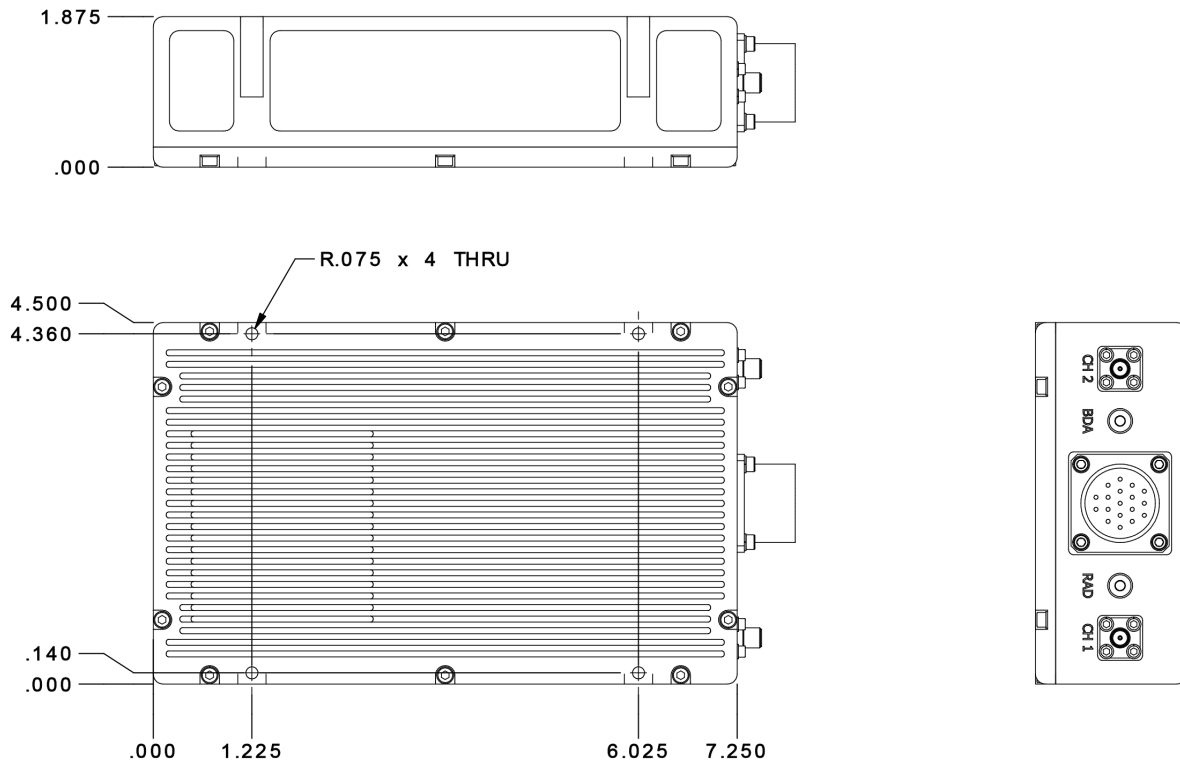
Parameter	Min.	Typ.	Max	Unit	Notes
Operating Temperature	-20	—	+65	°C	Ambient Temperature (Dependant on User Variables)
Cooling	Conduction/convection, Forced Air*			—	*Fan Option Required
Shock / Vibration	Designed to MIL-STD-810 and Equivalents			—	—
Ingress Protection Rating	IP66			—	—

Mechanical Specifications

Parameter	Value	Unit	Notes
Dimensions	7.25 x 4.5 x 1.875 (184.15 x 114.3 x 47.625)	in (mm)	L x W x H
RF Connectors	SMA-F	Connector Type	Mating Connector Type: SMA-M
DC Connector	MS27466T15B18P	Part Number	Mating Connector PN: MS27467T15B18S
Mounting	#6 Through Holes	—	See Mechanical Drawing Below
Weight	40 (1133.98)	oz (g)	—
Finish	Anodized Matte Black	—	MIL-A-8625



MECHANICAL DRAWING



DC/CONTROL CONNECTORS

J1 Connector - DC Connector (Amphenol Connex PN: MS27466T15B18P)

Pin	Description	Type	I/O	Notes
A	THPR DC Power	Power	Input	VDC +12 to +28 V (Into Unit)
B	THPR DC Power	Power	Input	VDC +12 to +28 V (Into Unit)
C	+5V	Power	Output	1A Max
D	THPR DC GND	Power	—	General Purpose Ground
E	THPR DC GND	Power	—	General Purpose Ground
F	N/C	None	—	—
G	RS232 TX	Data	Output	RS232 From Radio
H	RS232 RX	Data	Input	RS232 Into Radio
J	GND	Signal	—	General Purpose Ground
K	Ethernet RX-	Data	Input	10/100 Base T Receive Data Negative
L	Ethernet RX+	Data	Input	10/100 Base T Receive Data Positive
M	Ethernet TX+	Data	Output	10/100 Base T Transmit Data Positive
N	Ethernet TX-	Data	Output	10/100 Base T Transmit Data Negative
P	Fan DC Power	Power	Output	+16 VDC
R	Fan DC GND	Power	—	General Purpose Ground
S	GND	Signal	—	General Purpose Ground
T	GND	Signal	—	General Purpose Ground
U	GND	Signal	—	General Purpose Ground

CABLE OPTIONS

For available cable options, please [contact us](#) at inquiries and pricing.

