

NEWSPACE MARKET · COMPANY PROFILE



Triad RF Systems

United States · founded 2016 · triadrf.com

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PRODUCTS

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WITH DATASHEETS

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as of 20 August 2026



Triad RF Systems

Triad RF Systems is a US-based manufacturer of GaN solid-state power amplifiers (SSPAs) and bi-directional amplifiers (BDAs) for military, commercial, and space SATCOM applications. Founded in 2016 and headquartered in East Brunswick, New Jersey, Triad specializes in wideband, high-power density RF amplifier modules covering frequencies from 30 MHz to 8.5 GHz. Triad's amplifier portfolio addresses the needs of unmanned aerial systems (UAS) data links, ISR ground stations, tactical communications, SATCOM-on-the-move, and small satellite ground systems. Their GaN technology provides high efficiency and compact form factors, enabling high-power amplification in size, weight, and power (SWaP)-constrained platforms. Products range from 8W to over 50W output power in modules suitable for system integration. A key product in the space market is the TA1165, a 5.5–8.5 GHz 20W S-X-band GaN amplifier with extensive flight heritage on CubeSat and SmallSat LEO downlink and interlink missions. Triad also supplies complete amplified radio system integrations (THPR series) that combine Silvus StreamCaster radios with Triad amplifiers and power management electronics for military MANET and ISR applications. Triad RF Systems is ITAR-registered and holds DSAS certification. The company provides rapid custom amplifier design services for OEM integration and serves US government and international customers through a network of distributors.

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

Product catalogue



TRIAD RF SYSTEMS

TA1007

500-2800 MHz, 5 W GaAs power amplifier module supporting simple CW/FM through highly modulated 64/256QAM signals.

Frequency Low (MHz)	500
Frequency High (MHz)	2800
P1dB dBm (Typ)	36
Tx Gain (dB)	39
Supply Voltage (Vdc)	11-13
Size (in)	5 x 2.5 x 0.553

[price on request](#) [datasheet](#)



TRIAD RF SYSTEMS

TA1017

1700-2400 MHz, 32 W SISO GaN power amplifier for military and commercial radio systems.

Frequency Low (MHz)	1700
Frequency High (MHz)	2400
P1dB dBm (Typ)	44
Tx Gain (dB)	27
Supply Voltage (Vdc)	10-30
Psat (Typ)	45
Size (in)	4.925 x 2.533 x 0.7

[price on request](#) [datasheet](#)



TRIAD RF SYSTEMS

TA1029

6400-7100 MHz, 25 W GaN power amplifier (end of life / discontinued, information provided for reference only).

Frequency Low (MHz)	6400
Frequency High (MHz)	7100
Tx Gain (dB)	58
Supply Voltage (Vdc)	9-36
Psat (Typ)	44
Size (in)	6 x 2.5 x 1.06

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TRIAD RF SYSTEMS

TA1049

A 700–6000 MHz class AB GaN SISO power amplifier delivering +40 dBm saturated output power in a compact, low-SWaP package for military, commercial, and NewSpace applications.

Model	TA1049
Frequency Low (MHz)	700
Frequency High (MHz)	6000
P1dB dBm (Typ)	35
Tx Gain (dB)	40
Supply Voltage (Vdc)	9-36
Psat (Typ)	40

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TRIAD RF SYSTEMS

TA1056 SISO Power Amplifier

The TA1056 is a Class AB GaN power amplifier module operating from 20 to 1000 MHz, designed for both military and commercial applications with a saturated RF output power of +46 dB

Model	TA1056
Frequency Low	20 MHz
Frequency High	1000 MHz
P1dB dBm	44 (Typ)
Tx Gain	50 dB
Supply Voltage	27-30 Vdc
Psat	46 (Typ)

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TRIAD RF SYSTEMS

TA1140

400-450 MHz, 50 W LDMOS power amplifier module for high-linearity, high-efficiency signal transmission.

Frequency Low (MHz)	400
Frequency High (MHz)	450
Tx Gain (dB)	52
Supply Voltage (Vdc)	11-13
Psat (Typ)	47
Size (in)	3.15 x 2.58 x 0.7

[price on request](#) [datasheet](#)



TRIAD RF SYSTEMS

TA1160

5500-8500 MHz, 20 W SISO GaN power amplifier for high power density, efficient C/X-band transmission.

Frequency Low (MHz)	5500
Frequency High (MHz)	8500
P1dB dBm (Typ)	37
Tx Gain (dB)	52.5
Supply Voltage (Vdc)	12-30
Psat (Typ)	43
Size (in)	6 x 2.5 x 1.063

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TRIAD RF SYSTEMS

TA1165 5500-8500 MHz 20 W Power Amplifier

The TA1165 is a class AB GaN power amplifier module designed for Low Earth Orbit satellite applications, supporting various signal types and modulation formats.

Model	TA1165
Frequency Low	5500 MHz
Frequency High	8500 MHz
P1dB dBm (Typ)	43
Tx Gain	52.5 dB
Supply Voltage	28 Vdc
Psat (Typ)	4.5

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TRIAD RF SYSTEMS

TA1216

300-6000 MHz, 32 W SISO GaN power amplifier covering a very wide bandwidth for military and commercial use.

Frequency Low (MHz)	300
Frequency High (MHz)	6000
P1dB dBm (Typ)	42
Tx Gain (dB)	55
Supply Voltage (Vdc)	12-30
Psat (Typ)	45
Size (in)	3.755 x 2.3 x 0.95

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TRIAD RF SYSTEMS

TA1216 SISO Power Amplifier

The TA1216 is a class AB GaN SISO Power Amplifier operating from 300 to 6000 MHz, designed for high power density, efficiency, and linearity in both military and commercial applica

Model	TA1216
Frequency Low (MHz)	300
Frequency High (MHz)	6000
P1dB dBm (Typ)	42
Tx Gain (dB)	55
Supply Voltage (Vdc)	12-30
Psat (Typ)	45

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TRIAD RF SYSTEMS

TA1217 Power Amplifier

The TA1217 Power Amplifier is a class AB GaN module operating from 30 to 2700 MHz, designed for high power density, efficiency, and linearity in a low SWaP package.

Model	TA1217
Frequency Low	30 MHz
Frequency High	2700 MHz
P1dB dBm (Typ)	36 dBm
Tx Gain	39 dB
Supply Voltage	12-30 Vdc
Psat (Typ)	39 dBm

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TRIAD RF SYSTEMS

TA4010

4400-5000 MHz, 50 W GaN power amplifier for C-band military and commercial radio systems.

Frequency Low (MHz)	4400
Frequency High (MHz)	5000
P1dB dBm (Typ)	46
Tx Gain (dB)	26
Supply Voltage (Vdc)	12-32
Psat (Typ)	47
Size (in)	5.3 x 3.25 x 0.6

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TRIAD RF SYSTEMS

TA4010 Power Amplifier

The TA4010 is a Class AB GaN power amplifier module operating from 4400 to 5000 MHz, designed for high power density, efficiency, and linearity in a low SWaP package.

Model	TA4010
Frequency Low	4400 MHz
Frequency High	5000 MHz
P1dB dBm (Typ)	46
Tx Gain	26 dB
Supply Voltage	12-32 Vdc
Psat (Typ)	47

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TRIAD RF SYSTEMS

THPR1060

Range Enhanced Silvus StreamCaster S-Band radio system, 4-channel MIMO with 120 W total amplified Tx power.

Radio Core	Silvus
Band	S
MIMO Streams	4
Frequency Low (MHz)	2200
Frequency Hi (MHz)	2500
Total THPR Power (W)	120
Size (in)	9.21 x 5.77 x 5.35

[price on request](#) [datasheet](#)



TRIAD RF SYSTEMS

THPR1060 Triad High Power Radio

A 4-channel, S-Band amplified radio system built around a Silvus StreamCaster SC4410-235-O MIMO radio core paired with high-power RF amplification for extended range and throughput

Model	THPR1060
Radio Core	Silvus
Band	S
MIMO Streams	4
Frequency Low (MHz)	2200
Frequency Hi (MHz)	2500
Total THRP Power (W)	120

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TRIAD RF SYSTEMS

THPR1070

Range Enhanced Silvus StreamCaster C-Band radio system, 4-channel MIMO with 80 W total amplified Tx power.

Radio Core	Silvus
Band	C
MIMO Streams	4
Frequency Low (MHz)	4700
Frequency Hi (MHz)	5000
Total THPR Power (W)	80
Size (in)	9.21 x 5.77 x 5.35

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TRIAD RF SYSTEMS

THPR1076

Range Enhanced DTC L-Band radio system, 2-channel MIMO with 40 W total amplified Tx power.

Radio Core	DTC
Band	L
MIMO Streams	2
Frequency Low (MHz)	1140
Frequency Hi (MHz)	1450
Total THPR Power (W)	40
Size (in)	5.5 x 5.42 x 2.8

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TRIAD RF SYSTEMS

THPR1080

Range Enhanced Silvus StreamCaster C-Band radio system, 2-channel MIMO with 40 W total amplified Tx power.

Radio Core	Silvus
Band	C
MIMO Streams	2
Frequency Low (MHz)	4400
Frequency Hi (MHz)	5000
Total THPR Power (W)	40
Size (in)	5.5 x 5.42 x 2.8

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TRIAD RF SYSTEMS

Triad THPR1060 Range Enhanced Silvus StreamCaster Radio System

A high-power S-Band radio system integrating a Silvus StreamCaster SC4410-235-O radio with RF amplification and control circuitry for extended range and higher data rates.

Operating Frequency	2200 - 2500 MHz
Amplified Tx power	120W (30W per channel)
Power output Per MIMO Stream (5 Mbps)	50 W
Power output Per MIMO Stream (20+ Mbps)	10 W
Supply Voltage Range	+22 to +32 VDC
Average Operating Current Draw (Idle)	0.9 A
Average Operating Current Draw (5 Mbps)	4.5 - 18.2 A

[price on request](#)



TRIAD RF SYSTEMS

TTRM1116

1200-1400 MHz, 40 W GaN bi-directional amplifier (BDA) with integrated Tx/Rx switching.

Frequency Low (MHz)	1200
Frequency High (MHz)	1400
Tx Gain (dB)	20
Supply Voltage (Vdc)	10-28
Rx Noise Figure (dB)	1
Rx Gain (dB)	12
Output Freq Lo (MHz)	1200

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TRIAD RF SYSTEMS

TTRM1116 Bi-Directional Amplifier

The TTRM1116 is a bi-directional amplifier module designed to support various signal types, from simple CW/FM to complex modulated carriers like 64 and 256QAM, utilizing GaN transi

Model	TTRM1116
Frequency Low (MHz)	1200
Frequency High (MHz)	1400
Tx Gain (dB)	20
Supply Voltage (Vdc)	10-28
Rx Noise Figure (dB)	1
Rx Gain (dB)	12

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TRIAD RF SYSTEMS

TTRM1123D

2200-2500 MHz, 63 W LDMOS dual bi-directional SSPA (solid state power amplifier).

Frequency Low (MHz)	2200
Frequency High (MHz)	2500
Tx Gain (dB)	25
Supply Voltage (Vdc)	27-30
Rx Noise Figure (dB)	2.3
Rx Gain (dB)	12
Output Freq Lo (MHz)	2200

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TRIAD RF SYSTEMS

TTRM1210-D01 Bi-Directional Amplifier

The TTRM1210-D01 is a bi-directional amplifier module designed to support various signal types, from simple CW/FM to complex modulated carriers like 64 and 256QAM, utilizing GaN tr

Model	TTRM1210
Frequency Low (MHz)	30
Frequency High (MHz)	2700
Tx Gain (dB)	36
Supply Voltage (Vdc)	12-30
Rx Noise Figure (dB)	2
Rx Gain (dB)	23

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TRIAD RF SYSTEMS

TTRM2002

2200-2500 MHz, 10 W GaN bi-directional amplifier with internal bypass relay and status monitoring.

Frequency Low (MHz)	2200
Frequency High (MHz)	2500
Tx Gain (dB)	25
Supply Voltage (Vdc)	10-30
Rx Noise Figure (dB)	2.5
Rx Gain (dB)	15
Output Freq Lo (MHz)	2200

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TRIAD RF SYSTEMS

TTRM2002 2200-2500 MHz 10 W Bi-Directional Amplifier

The TTRM2002 is an S-Band Bi-Directional power amplifier operating from 2200 to 2500 MHz, offering up to 10 Watts of output power and supporting various signal types from CW/FM to

Model	TTRM2002
Frequency Low (MHz)	2200
Frequency High (MHz)	2500
Tx Gain (dB)	25
Supply Voltage (Vdc)	10-30
Rx Noise Figure (dB)	2.5
Rx Gain (dB)	15

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TRIAD RF SYSTEMS

TTRM2005DR

A 2200-2500 MHz, 25 W dual bi-directional solid-state power amplifier (SSPA) module supporting high-order modulation for S-band radio links.

Model	TTRM2005DR
Frequency Low (MHz)	2200
Frequency High (MHz)	2500
Tx Gain (dB)	25
Supply Voltage (Vdc)	12-30
Rx Noise Figure (dB)	2.5
Rx Gain (dB)	15

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TRIAD RF SYSTEMS

TTRM4005QR

4400-5000 MHz, 25 W GaN quad bi-directional SSPA with temperature compensation and TTL Tx/Rx switching.

Frequency Low (MHz)	4400
Frequency High (MHz)	5000
Tx Gain (dB)	25
Supply Voltage (Vdc)	12-28
Rx Noise Figure (dB)	2.5
Rx Gain (dB)	10
Output Freq Lo (MHz)	4400

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TRIAD RF SYSTEMS

TTRM4302 Bi-Directional Amplifier

The TTRM4302 is a bi-directional amplifier module designed to support various signal types, from simple CW/FM to complex modulated carriers like 64 and 256QAM, operating between 50

Model	TTRM4302
Frequency Low (MHz)	5000
Frequency High (MHz)	6000
Tx Gain (dB)	25
Supply Voltage (Vdc)	10-30
Rx Noise Figure (dB)	2.5
Rx Gain (dB)	15

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TRIAD RF SYSTEMS

TTRM4310

5000-6000 MHz, 50 W GaN bi-directional amplifier with forward power measurement and Tx/Rx status monitor.

Frequency Low (MHz)	5000
Frequency High (MHz)	6000
Tx Gain (dB)	28
Supply Voltage (Vdc)	10-30
Rx Noise Figure (dB)	3
Rx Gain (dB)	12
Output Freq Lo (MHz)	5000

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TRIAD RF SYSTEMS

TTRM4402R

5000-5300 MHz, 10 W GaN bi-directional amplifier with automatic Tx/Rx switching and amplifier status output.

Frequency Low (MHz)	5000
Frequency High (MHz)	5300
Tx Gain (dB)	25
Supply Voltage (Vdc)	10-14
Rx Noise Figure (dB)	2.5
Rx Gain (dB)	15
Output Freq Lo (MHz)	5000

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TRIAD RF SYSTEMS

TTRM4510

5300-5900 MHz, 50 W GaN bi-directional amplifier with forward power measurement and optional heatsink.

Frequency Low (MHz)	5300
Frequency High (MHz)	5900
Tx Gain (dB)	28
Supply Voltage (Vdc)	10-14
Rx Noise Figure (dB)	3
Rx Gain (dB)	12
Output Freq Lo (MHz)	5300

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Contact Triad RF Systems

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