

TAGORE

T a g o r e T e c h I n c

Peak Performance in Every Wave

2025 Product Catalog



Unique RF switch technology to replace PIN diodes

Replacing Apollo era technology with modern GaN RF technology for RF switches

RF switching in Apollo era during 1960s was based on the PIN diode solution, technology which is still in use today. PIN diodes require complex biasing network consisting multiple passive components as well high voltage generation upto 200V and high voltage controller. TagoreTech RF GaN switches offer modern integrated RF solution with minimal number of components and 1000x smaller power consumption. Time to change your RF design to year 2025.

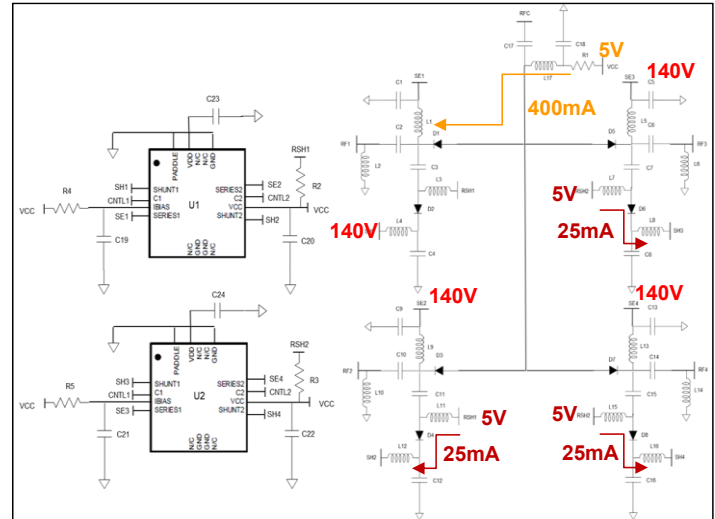
PIN diode solution:

- 55 components
- 300mm² board space
- 2500 mW power consumption
- Complex design
- Performance variation in production

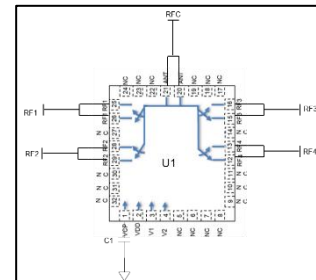
Tagore RF GaN Switch

- 2...4 components
- Less than 30mm² board space
- Less than 1mW power consumption
- Simple RF design, no need to spend time for switch design
- No high voltage present on board, less EMI/EMC issues
- Stable production, no yield loss

TagoreTech RF GaN enables modern RF switching from 1MHz to 7GHz, supporting power levels from 10W to 200W P_{avg} . We expect to support upto 12GHz during year 2026 with even more products. Do not struggle complex design with PIN diodes, use TagoreTech RF switches to simplify your design.

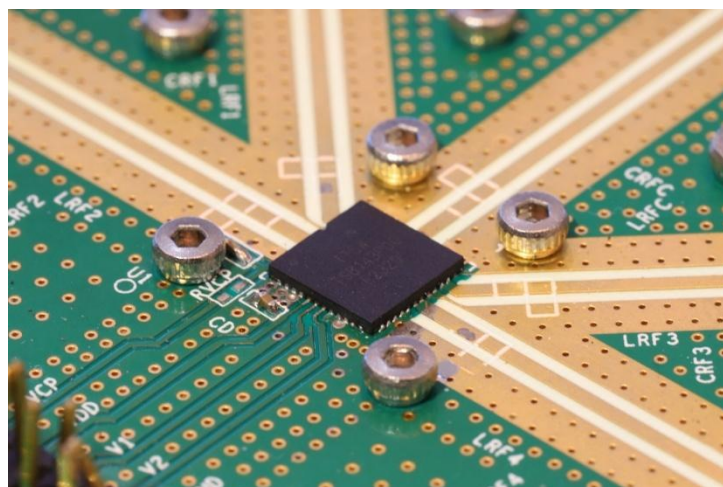
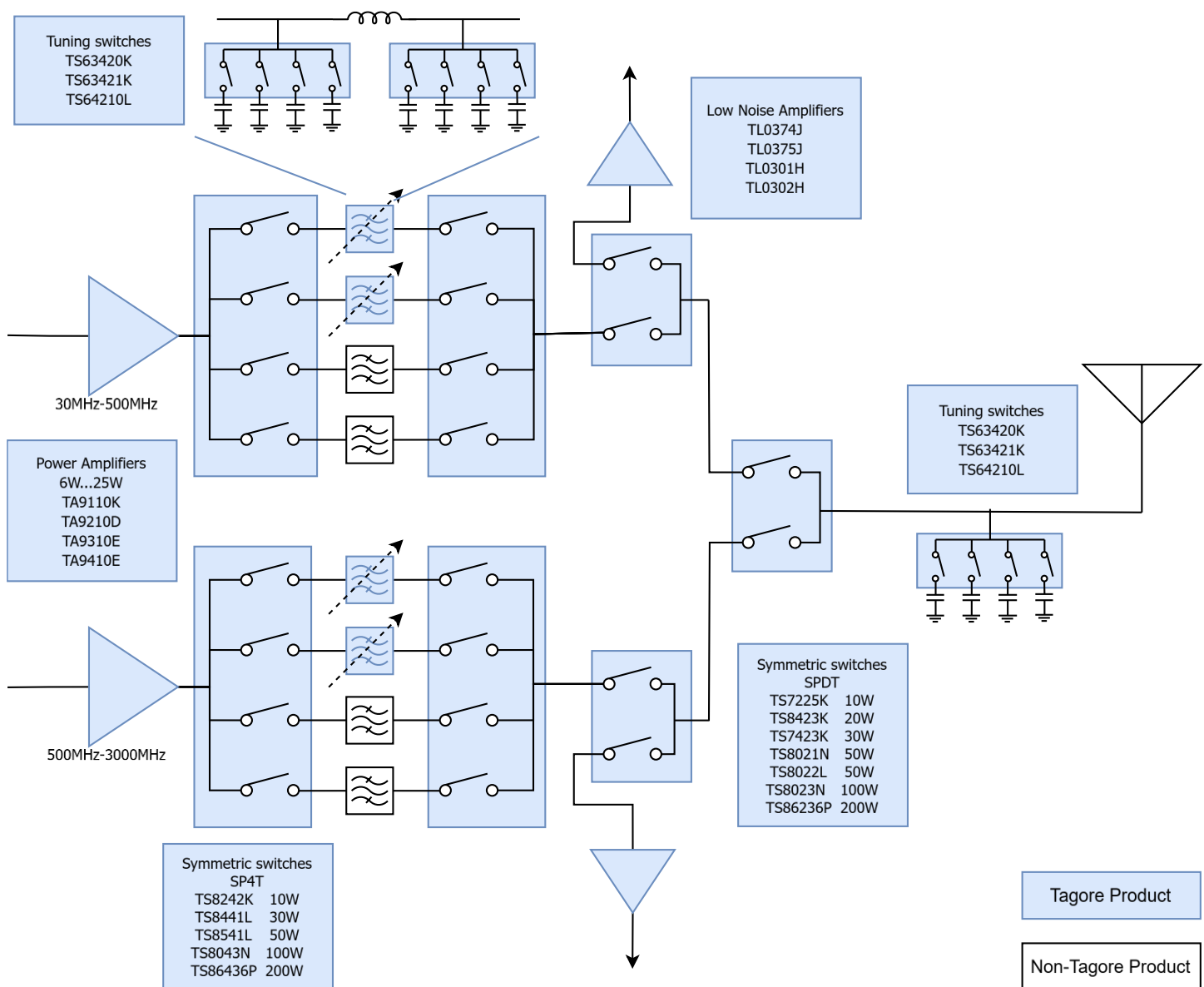


Example of SP4T PIN diode schematics and voltages & currents present. Totally more than 50 components needed to realize RF switch.



TagoreTech RF GaN schematics, RF switch and a few passives, simplifies your RF design

LMR/PMR, Tactical & MIL-COM Radio Applications



Tagore TS86236P SPDT 200W CW switch mounted on PCB

High Power Switch Portfolio – Symmetric Switches

Part Number	SPnT	Type	Frequency	P0.1dB (CW)	IL 1/max GHz	Isolation 1/max GHz	H2/H3	Switching Time	Package	VDD Supply
10 W										
TS7225FK	2T	Reflective	30MHz-6GHz	10W	0.35/0.9dB	40/15dB	Pin=40dBm -81 dBc	0.7us	3x3	2.6 - 5.5V
TS8242FK	4T	Reflective	30MHz-5GHz	10W	0.30/0.8dB	40/18dB	Pin=40dBm -86 / -89 dBc	0.6us	3x3	2.6 - 5.5V
20 W										
TS8423K	2T	Reflective	30MHz-7.2GHz	20W	0.2/0.5dB	46/22dB	Pin=40dBm -92 / -95 dBc	0.9us	3x3	2.6 - 5.5V
30 W										
TS8441L	4T	Reflective	30MHz-4.5GHz	30W	0.23/1.0dB	37/20dB	Pin=42dBm -81 / -90 dBc	0.8us	4x4	2.6 - 5.5V
50 W										
TS8021N	2T	Reflective	30MHz-4GHz	50W	0.2/0.5dB	40/20dB	Pin=45dBm -87 / -95 dBc	5.2us	5x5	2.6 - 5.5V
TS8022L	2T	Reflective	30MHz-6GHz	50W	0.2/0.6dB	40/20dB	Pin=45dBm -87 / -95 dBc	5.2us	4x4	2.6 - 5.5V
TS8541L	4T	Reflective	30MHz-4.3GHz	50W	0.26/0.52dB	45/24dB	Pin=40dBm -84 / -86dBc	2.3us	4x4	2.6 – 5.5V
100 W										
TS8023N	2T	Reflective	30MHz-3.5GHz	100W	0.2/0.4dB	42/27dB	Pin=47dBm -88 / -85 dBc	12us	5x5	2.6 – 5.5 V
TS8043N	4T	Reflective	30MHz-2.5GHz	100W	0.37/0.45dB	36/36 dB	Pin=45dBm -76 / -79 dBc	12us	5x5	2.6 – 5.5 V
200 W										
TS86246P	2T	Reflective	1MHz–1GHz	200W	0.08dB at 30MHz	49dB at 30MHz	Pin=50dBm -93 / -94 dBc	72us	7x7	2.6 - 5.5V
TS86236P	2T	Reflective	30MHz-1.7GHz	200W	0.11dB at 200MHz	38dB at 1GHz	Pin=50dBm -88 / -91 dBc	26us	7x7	2.6 - 5.5V
TS86436P	4T	Reflective	30MHz-1.3GHz	200W	0.13dB at 200MHz	36dB at 1GHz	Pin=50dBm -88 / -91 dBc	12us	7x7	2.6 - 5.5V

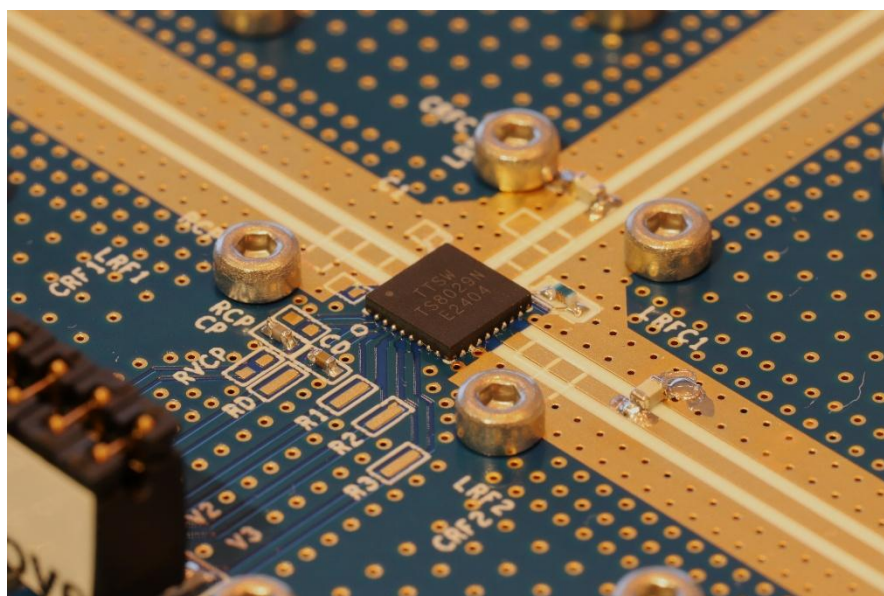
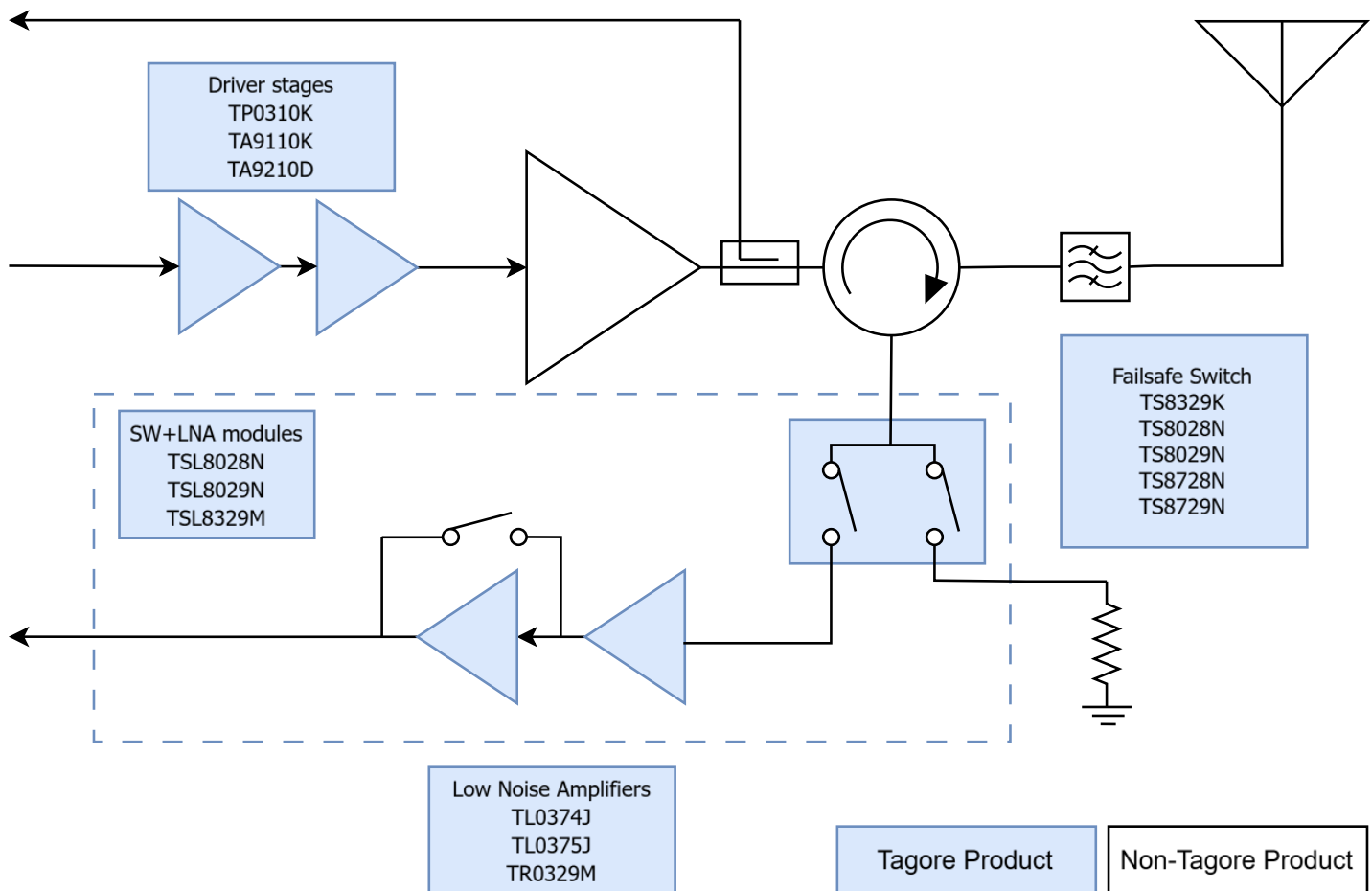
Bypass Symmetric Switches

Part Number	SPnT	Type	Frequency	P0.1dB (CW)	IL 1/max GHz	Isolation 1/max GHz	H2/H3	Switching Time	Package	VDD VCP Supply
Application Note: High power switch solution for ultra-low switch spur noise (<-134 dbm) requirement										
10 W										
TS82420K	4T	Reflective	30MHz-5GHz	10W	0.25 / 0.8dB	40 / 18dB	Pin=40dBm -86 / -89 dBc	0.6us	3x3	2.6 - 5.5V, -18 V
20 W										
TS82250K	2T	Reflective	30MHz-5GHz	20W	0.2 / 0.5dB	46 / 22dB	Pin=40dBm -92 / -95 dBc	0.9us	3x3	2.6 - 5.5V, -18 V
TS84230K	2T	Reflective	30MHz-7.2GHz	20W	0.2 / 0.5dB	46 / 22dB	Pin=40dBm -92 / -95 dBc	0.9us	3x3	2.6 - 5.5V, -18 V
30 W										
TS84410L	4T	Reflective	30MHz-4.5GHz	30W	0.23 / 1.0 dB	37 / 20dB	Pin=40dBm -81 / -90 dBc	0.8us	4x4	2.6 - 5.5V, -18 V
50 W										
TS80210N	2T	Reflective	30MHz-4GHz	50W	0.2 / 0.5 dB	40 / 20 dB	Pin=45dBm -87 / -95 dBc	5.2us	5x5	2.6 - 5.5V, -18 V
TS80220L	2T	Reflective	30MHz-4GHz	50W	0.2 / 0.5 dB	40 / 20 dB	Pin=45dBm -87 / -95 dBc	5.2us	4x4	2.6 - 5.5V, -18 V
TS85410L	4T	Reflective	30MHz-4.3GHz	50W	0.2 / 0.5 dB	40 / 20 dB	Pin=40 dBm -84 / -86 dBc	2.3us	4x4	2.6 - 5.5V, -18 V
100 W										
TS80430N	4T	Reflective	30MHz-2.5GHz	100W	0.37/0.45 dB	36 / 36 dB	Pin=45dBm -76 / -79 dBc	12us	5x5	2.6-5.5V, -18 V

In bypass switches, internal charge pump has been turned off to ensure minimal possible noise floor for HF and VHF bands. User needs to provide external -18V voltage to device, current consumption less than 100μA.

200W switches, TS86246P, TS86236P, and TS86436P have quiet charge pump, noise level better than -140dBm/kHz.

5G Cellular Infrastructure & Radar Applications



TS8029N Receiver protection switch in 5.0 x 5.0 mm² QFN

Independently Controlled and Fail-Safe Switches

Independently Controlled RF Symmetric Switches

Part Number	SPnT	Type	Frequency	P0.1dB (CW)/Peak Power	IL 1/max GHz	Isolation 1/max GHz	H2/3 (35dBm)	Switching Time	Package	VDD Supply
10 W										
TS72461K	4T	Reflective	0.4-3.8GHz	10 / 60 W	0.4/0.9dB	40/22dB	-77dBc	1.2us	3x3	2.6 - 5.5V

Fail-Safe Receiver Protection Switches

Part Number	SPnT	Type	Frequency	P0.1dB (CW)/Peak Power	IL TX (2.7GHz)	IL RX (2.7GHz)	Isolation RX (2.7GHz)	Switching Time	Package	VDD Supply
TS8329K	2T	Reflective	0.7-8.5 GHz	20/100 Wp	0.35 dB	0.45dB	38dB	0.35us	3x3	2.6 - 5.5V
TS8028N	2T	Reflective	0.7-5.0 GHz	100/500Wp	0.37 dB at 3.6GHz	0.51dB at 3.6GHz	38dB at 2.6GHz	1.6us	5x5	2.6 - 5.5V
TS8029N	2T	Reflective	0.7-5.0 GHz	100/630Wp	0.41 dB at 2.4GHz	0.62dB at 2.4GHz	40dB at 2.4GHz	1.2us	5x5	2.6 - 5.5V
TS8728N	2T	Reflective	0.5-4.0 GHz	250/ >400Wp	0.39dB at 3.55GHz	0.77dB at 3.55GHz	33dB at 3.55GHz	0.7us	5x5	2.6 - 5.5V
TS8729N	2T	Reflective	0.5-2.0 GHz	300/ >550Wp	0.2 dB at 1.3GHz	0.6 dB at 1.3GHz	47dB at 1.3GHz	1.6us	5x5	2.6 - 5.5V

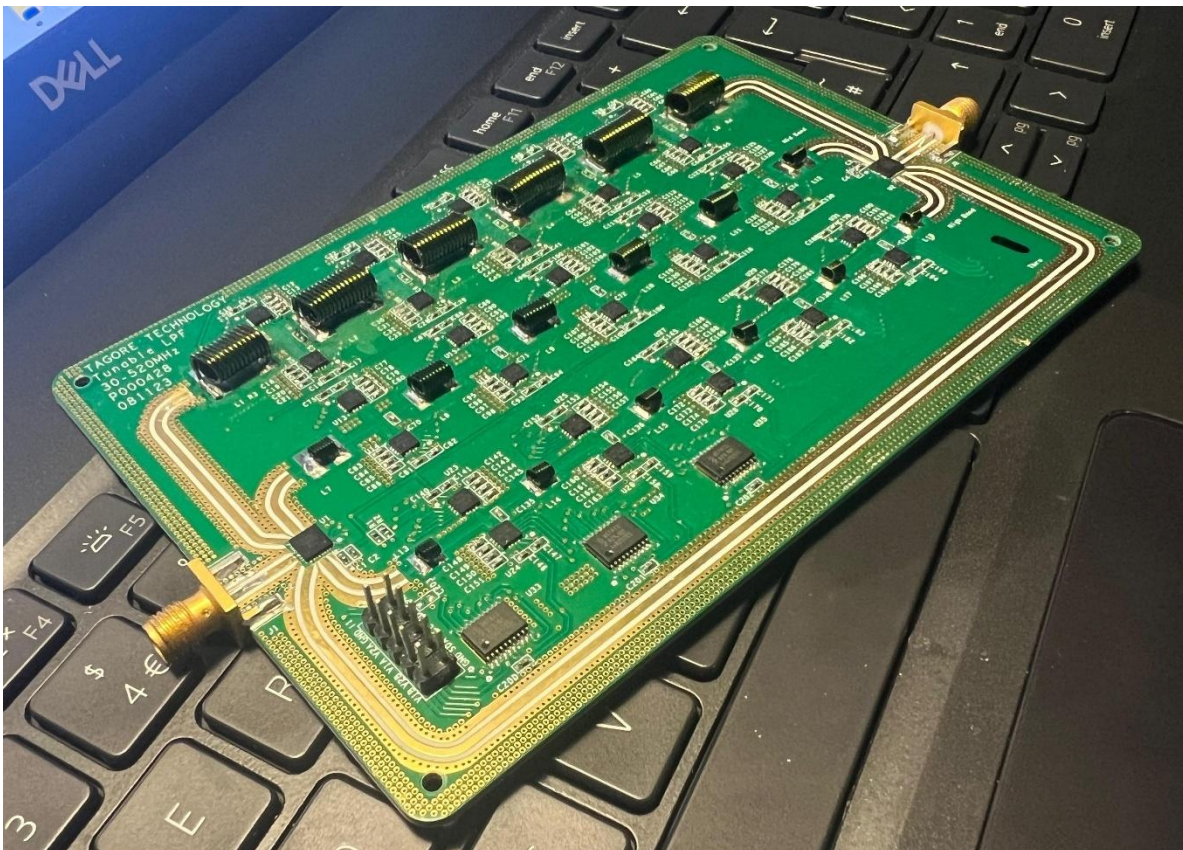
Filter/Ant Tuning Switch: High Peak Voltage, Low Ron

Antenna Tuning Switches



Part Number	SPnT	Reflective Off Ports	Ron (Ω)	Peak RF Voltage (V)
<u>TS64210L</u>	2T	Open	1.1	120
<u>TS63421K*</u>	4T	Open	1.1	100
<u>TS63410K</u>	4T	Open	1.1	100

*Internal Charge Pump Disabled



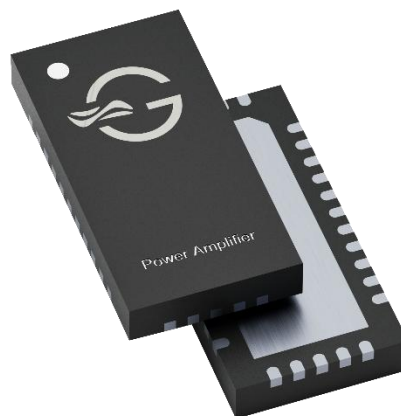
Tunable Low Pass Filter with 30–520MHz passband realized with SP4T tuning switches

GaN Power Transistors / Power Amplifiers

Power Amplifiers

Part Number	Frequency	Linear Gain at 0.9 GHz	P _{SAT} @ 0.9GHz	PAE @ 0.9 GHz	Voltage	Test Signal	Package
<u>TA9110K</u>	0.03 – 4.0 GHz	17.0 dB	6 W	55 %	32 V	CW	3x3 QFN
<u>TA9210D</u>	0.03 – 4.0 GHz	18.0 dB	12.5 W	55 %	32 V	CW	3x6 QFN
<u>TA9310E</u>	0.03 – 4.0 GHz	17.5 dB	20 W	55 %	32 V	CW	6x5 DFN
<u>TA9410E</u>	0.03 – 4.0 GHz	20.0 dB	25 W	>55 %	50 V	CW	6x5 DFN

- Many application boards developed for LMR/PMR/MILCOM bands & power levels.
- Application EVBs available for verification of performance.
- Application support for customer radio board.
- Design support for custom band and power.
- BOM for bias circuit.



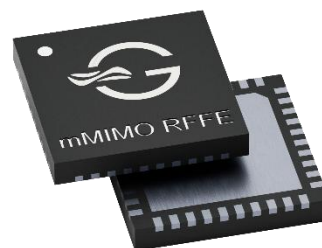
Low Noise Amplifiers & Front-End ICs

Low Noise Amplifiers and Gain Block

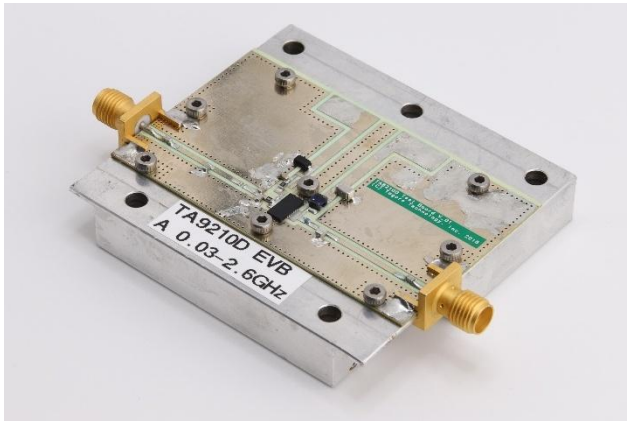
Part Number	Frequency	Test Freq	Gain (dB)	LNA NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Voltage	Package
TL0374J	0.03 – 3.0 GHz	2.6 GHz	19.0	0.37	19.5	36.5	5.0 V	2x2 DFN
TL0375J	2.0 – 5.0 GHz	3.6 GHz	17.5	0.40	19.5	33.0	5.0 V	2x2 DFN
TP0310K	0.03 – 3.8 GHz	2.5 GHz	14.0	1.10	27.0	37.0	5.0 V	3x3 DFN
TL0301H	5.125-5.925 GHz	5.5 GHz	17.5	0.90	12.0	17.0	3.3 V	1.5X1.5 DFN
TL0302H	5.925-7.125 GHz	6.6 GHz	13.5	1.4	12.0	16.0	3.3 V	1.5X1.5 DFN
TR0329M	2.0 - 4.2 GHz	3.6 GHz	Low gain mode:15.0	0.50	10.5	22.0	5.0 V	3.5 X 3.5 QFN
			High gain mode:32.0	0.50	20.0	35.0		

Switch LNA modules / Massive MIMO Front-End ICs

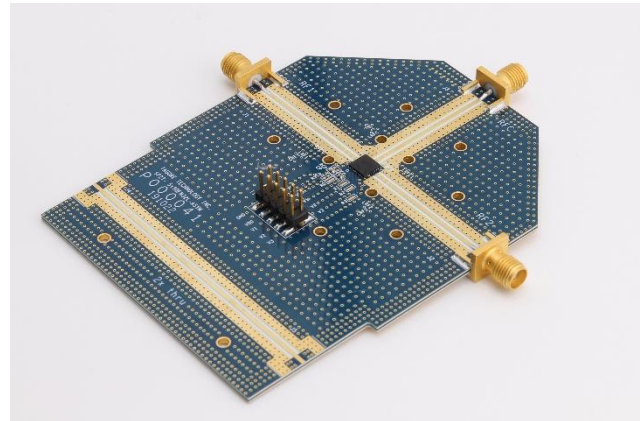
Part Number	Frequency	Test Frequency	Power Handling	Gain Rx Mode (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Voltage	Package
TSL8329M	3.3 – 4.2 GHz	3.6 GHz	43 dBm LTE avg, 8 dB PAR	Low gain mode:13.0	0.9	10.5	18.0	5.0 V	6x6 QFN
				High gain mode:32.0	1.0	20.0	35.0		
TSL8029N	2.0 – 5.0 GHz	3.6 GHz	100W avg, 630W peak	Low gain mode:14.5	1.3	12.0	20.0	5.0 V	5x5 QFN
				High gain mode:33.0	1.4	22.0	31.0		
TSL8028N	2.0 – 5.0 GHz	3.6 GHz	100W avg, 630W peak	Low gain mode:14.5	1.1	13.0	24.0	5.0 V	5x5 QFN
				High gain mode:33.0	1.2	21.0	33.0		



EVKs available for all our products



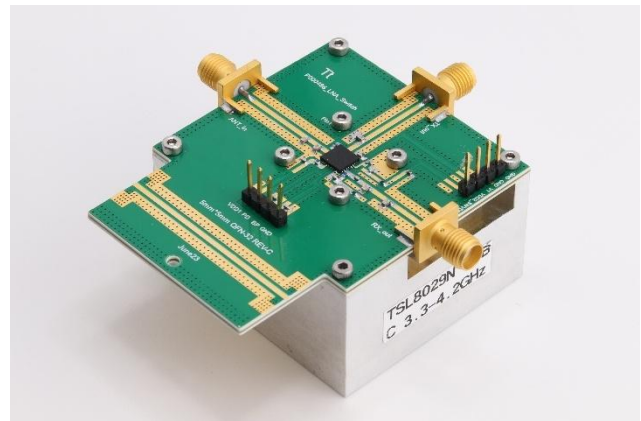
TagoreTech TA9210D Power Amplifier Evaluation board



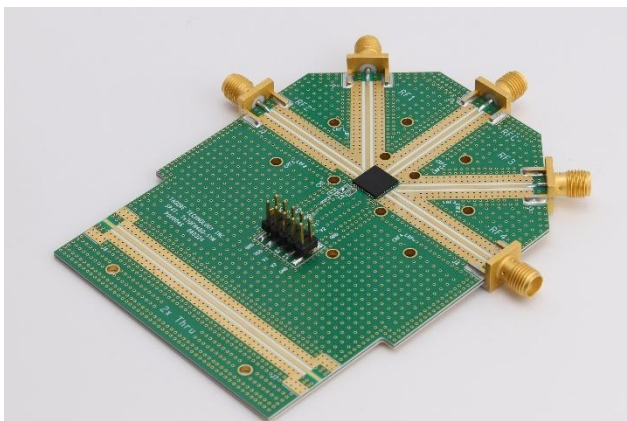
TagoreTech Fail safe switch evaluation board without heat sink



TagoreTech Front end module TSL8329M for TDD mMIMO applications, SW+LNA



TagoreTech Front end module TSL8029N for TDD basestation applications, SW+LNA



TS6436P 200W SP4T switch EVB



TL0374J LNA EVB 30MHz-3GHz

Here are a few examples of TagoreTech EVBs. Please contact us or our representatives for more information.

Contact Information

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