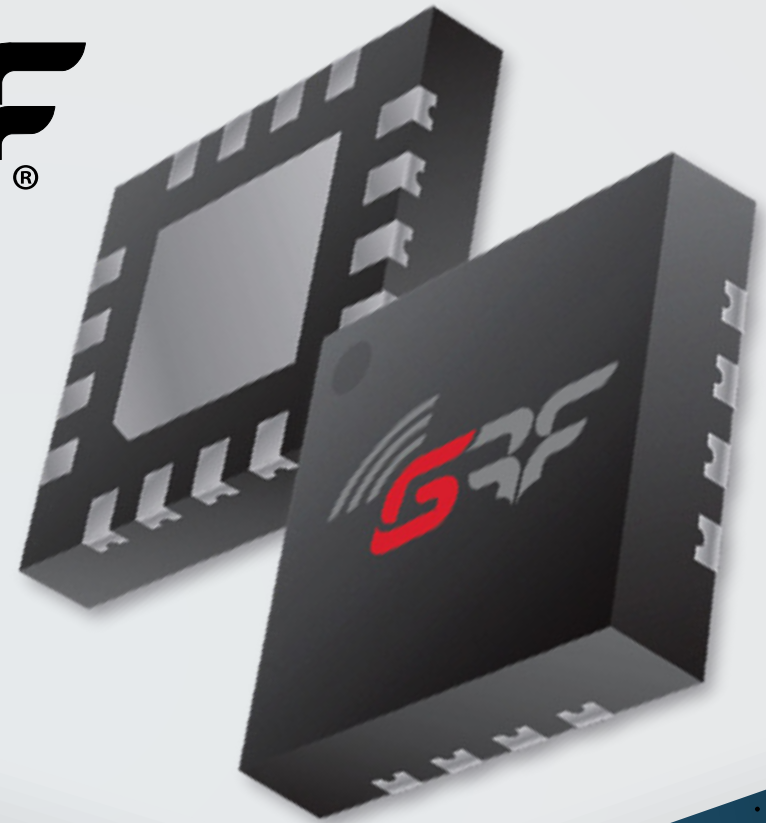




MAKING BETTER NETWORKS™



PRODUCT SELECTION GUIDE



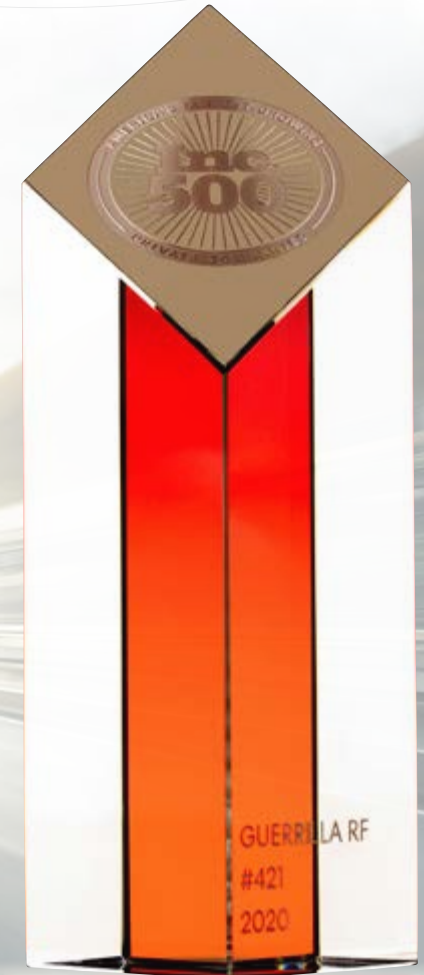
WE ARE PERFORMANCE

The best wireless networks always start with the ultimate in RF component performance.

This fundamental belief drives everything we do at GRF – from innovative IC definition & design to unparalleled applications & production support.

Our passion for creating the very best RFICs has led directly to our success as one of the fastest growing semiconductor firms in the industry, and one of the top 500 companies as recognized by Inc. magazine.

With an installed base of well over 100M units, Guerrilla RF ICs deliver proven, ultra-reliable performance for an ever-growing variety of mission-critical applications.



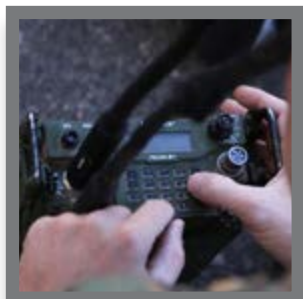
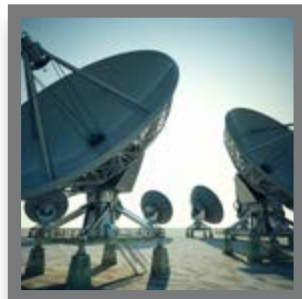
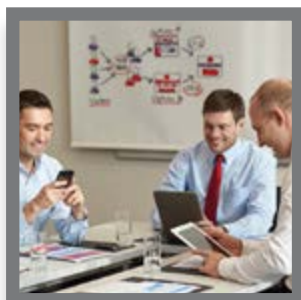
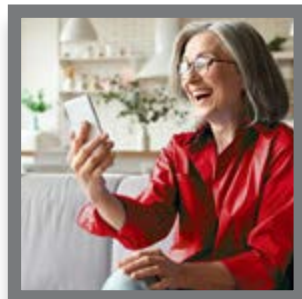


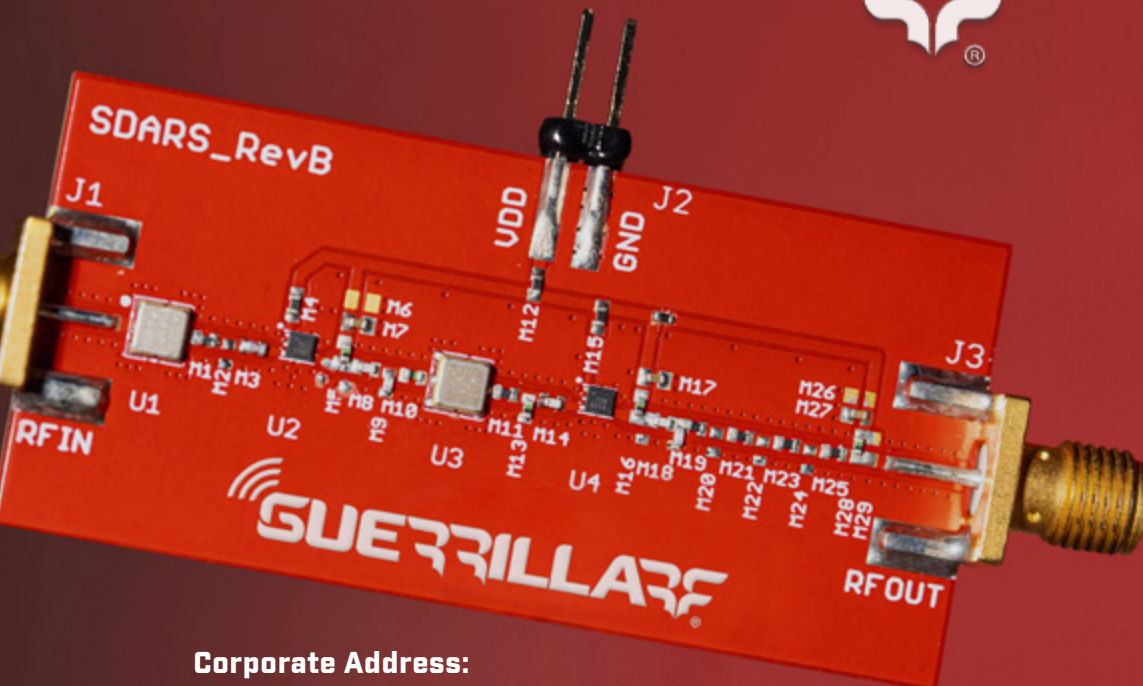
WHO WE SERVE

Providing the Critical Building Blocks for Performance-Driven Markets

Our cores form the backbone of today's state-of-the-art RF and microwave communication systems.

Each RFIC is tailored to meet the demanding requirements of wireless infrastructure-grade applications found in 5G, Automotive Connectivity, Cellular Boosters & DAS, Military Radios and Wireless Audio.





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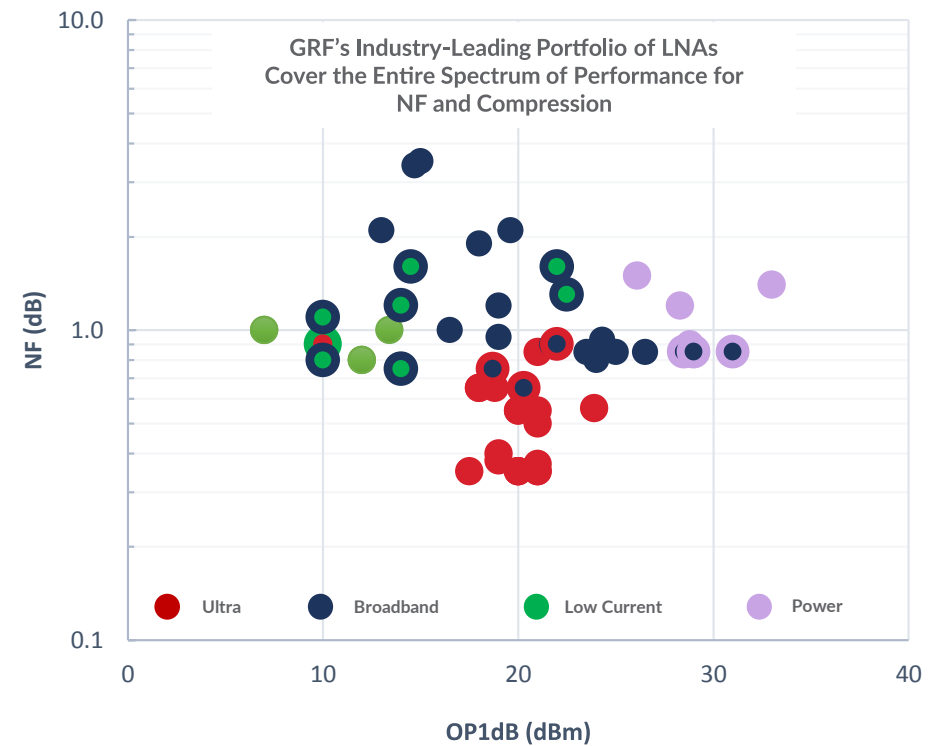
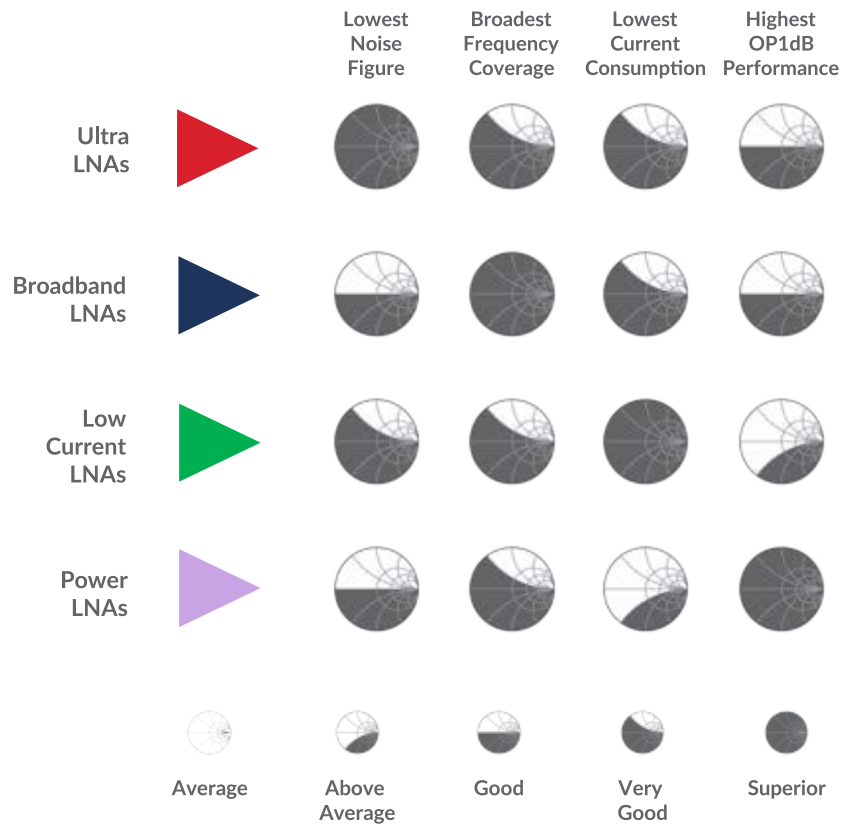
2021 PRODUCTS



GRF LNAs

Guerrilla RF has one of the most extensive offerings of high performance LNAs in the industry. Each of the 60+ components in our library have been optimized to accentuate critical parameters like ultra low noise figure, frequency coverage, current consumption and linearity/compression performance.

Use the categories below as a guide to discovering the ideal component for your specific application.



Ultra LNAs



Lowest Noise Figure



Superior

Broadest Frequency Coverage



Very Good

Lowest Current Consumption



Very Good

Highest OP1dB Performance



Good

Ultra LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF2070	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100		2.0 DFN-8
GRF2080	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	Digital Shutdown	2.0 DFN-8
GRF2133	0.4-2.7	28.5	0.65	20.3	30	1.8-5.0	30-160	High Gain	1.5 DFN-6
GRF2071	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100		2.0 DFN-8
GRF2071W	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	AEC-Q100 Automotive Qualified	2.0 DFN-8
GRF2081	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	Digital Shutdown	2.0 DFN-8
GRF2078*	0.7-2.7	18.8	0.56	23.9	40.7	5	150	Dual Channel	3.0 QFN-16
GRF2051	0.7-3.8	19	0.37	21	36	2.7-5.0	20-100		2.0 QFN-12
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100		2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	Digital Shutdown	2.0 DFN-8
GRF2052	1.7-4.5	19.2	0.5	21	38	2.7-5.0	20-100		2.0 QFN-12
GRF2105	0.4-5.0	20.7	0.77	22.5	36	2.7-5.0	20-90	Flat Gain, Broadband	1.5 DFN-6
GRF2171	2.5-5.0	29.5	0.75	18.7	41.5	5	75	High Gain	1.5 DFN-6
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100		2.0 DFN-8
GRF2093	1.0-6.0	21	0.38	19	36	2.7-5.0	30-100		1.5 DFN-6
GRF2093W	1.0-6.0	21	0.37	19	36	2.7-5.0	30-100	AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	Digital Shutdown	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100		2.0 DFN-8
GRF2073W	3.0-6.0	20.5	0.4	19.8	35	2.7-5.0	20-100	AEC-Q100 Automotive Qualified	2.0 DFN-8

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.
W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

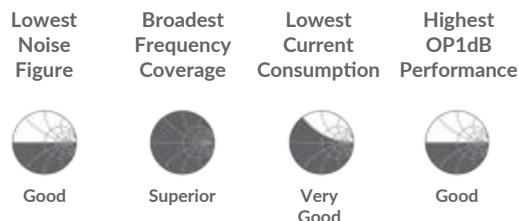
Ultra LNAs with Bypass

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF2077*	0.7-3.8	17	0.9	22	40	3.0-5.0	70	Failsafe Bypass Mode	2.0 DFN-8
GRF2076*	0.6-6.0	19.5	0.85	21	37.5	2.7-5.0	20-100		1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

Broadband LNAs



Broadband LNAs

Part Number	Frequency Range (GHz)	Reference Design Tunes ¹ (MHz) [Standard Datasheet Tune in BOLD]			Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF2114	0.1-2.7	20-50	100-400	450-520 700-960	17.9	0.93	24.3	40.2	1.8-5.0	30-150	High Linearity	2.0 DFN-8
GRF2133	0.4-2.7	400-500 700-2700	800-2700 900-1200	1200-1600 1600-2100	28.5	0.65	20.3	30	1.8-5.0	30-160	High Gain	1.5 DFN-6
GRF2100	0.1-3.8	80-120 400-650 408-410 700-960	1150-1200 1150-1615 1540-1640 1700-2200	2300-2700 3400-3800 4300-5300	16.5	0.8	10	19	1.8-5.0	6-30		1.5 DFN-6
GRF2108*	0.1-3.8		400-2700		17	0.9	17.5	19	1.8-5.0	4-20	High Gain, Low Noise, Low Cost	1.5 DFN-6
GRF5020	0.1-3.8	30-2500 80-1000 350-750 470-870 500-3000 700-2700 800-1000	900-1300 1000-3300 1200-2000 1300-2700 1700-2700 1800-3800 2000-4000	2300-3500 2600-3400 3000-5000 3600-4400 4300-5300 5000-6000	17.3	0.8	24.5	37.2	4.5-10.0	50-200	High Linearity	3.0 QFN-16
GRF4002	0.1-3.8	15-50 20-40 70-110	100-1000 434-868 700-3600	1100-1700 1200-1400 2320-2345	15	0.85	23.5	36.5	1.8-5.0	20-80	High Linearity, Ultra-Broadband	1.5 DFN-6
GRF4002W	0.1-3.8		700-3600		15	0.85	23.5	36.5	1.8-5.0	20-80	High Linearity, Ultra-Broadband, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF4003	0.1-3.8	10-500 30-450	700-3600	868-915	13	0.85	25	41	1.8-5.0	30-120	High Linearity, Ultra-Broadband	1.5 DFN-6
GRF4004	0.1-3.8	20-60 400-900	600-1000	1700-2700	12.7	0.85	26.5	43	1.8-5.0	30-150	High Linearity	1.5 DFN-6
GRF5040	0.1-3.8	25-35 30-2500	900-1300 1200-1400	1500-1600 1700-2700	15	0.85	29.8	46.3	4.5-10.0	100-250	High Linearity	3.0 QFN-16
GRF2373	0.1-3.8	90-110 240-260 500-3000	800-1000 1700-2200	1900-2700 3600-4000	18.5	1.2	12.5	25	2.7-5.0	10-25		1.5 DFN-6
GRF2130*	0.7-3.8		1700-2200		32	1.2	14	17	1.8-5.0	15-50		1.5 DFN-6
GRF4012*	0.4-4.2		2320-2345		17.8	0.9	21	32	1.8-5.0	20-80	High Gain, Low Noise	1.5 DFN-6
GRF4012W*	0.4-4.2		2320-2345		17.8	0.9	21	32	1.8-5.0	20-80	High Gain, Low Noise, AEC-Q100 Automotive Qualified	1.5 DFN-6



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

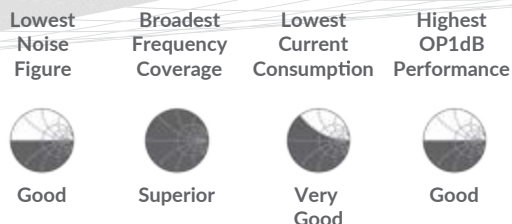
* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

Note 1: New custom tunes are being added everyday. Be sure to look under the 'Custom Tunes' tab on the product's web page to view the latest set of matching options.

Note 2: Assumes a broadband choke. See datasheet for details.

Broadband LNAs



Broadband LNAs (continued)

Part Number	Frequency Range (GHz)	Reference Design Tunes ¹ (MHz) [Standard Datasheet Tune in BOLD]			Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF2105	0.4-5.0	150-3500 450-1250 700-2700	800-3000 1000-2000 3000-5000	3300-4200 3400-3800 4400-5000	20.7	0.77	22.5	36	2.7-5.0	20-90	High Linearity; Ultra-Broadband	1.5 DFN-6
GRF2171	2.5-5.0	1170-1300 1525-1610 2000-2500	2100-2500 2900-3000 3400-3800	3300-4200 3800-4250	29.5	0.75	18.7	41.5	5	75		1.5 DFN-6
GRF5010	0.05-6.0	10-200 70-150 100-400	700-960 700-2700 900-1300	1700-3800 3400-3800 4250-4350	17	0.82	24.5	38.5	4.5-9.0	50-150	High Linearity; Ultra-Broadband	3.0 QFN-16
GRF4014	0.1-6.0	10-50 100-115 140-650 150-400	400-1000 902-928 950-1250 1240-1525	1700-3800 2400-2800 2700-3600 5800-6000	16.5	0.8	24	39	3.0-8.0	30-130	High Linearity; Ultra-Broadband	1.5 DFN-6
GRF4014W	0.1-6.0		1700-3800		17	0.8	24	39	3.0-8.0	30-130	High Linearity; Ultra-Broadband, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF4001	0.1-6.0		0.1-6000		15.5	1	16.5	30.5	1.8-5.0	5-50	Ultra-Broadband	1.5 DFN-6
GRF2505	4.0-6.0		4000-5925		12.5	1.2	19	30	1.8-5.0	20-60	Ultra-Broadband	1.5 DFN-6
GRF2013	0.05-8.0	50-100 50-2200 70-6000 100-500 100-1000 400-1000	700-900 700-3900 800-860 1200-1500 1700-2000 2000-6000	2500-2700 3000-6000 3400-3800 5855-5925 6000-7000 7750-8250	18.5	1.3	22.5	38.5	2.7-8.0	15-100	High Linearity; Ultra-Broadband	1.5 DFN-6
GRF2013W	0.05-8.0		700-3900		18.5	1.3	22.5	38.5	2.7-8.0	15-100	High Linearity; Ultra-Broadband, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF3014*	0.001-9.0		0.1-9000		10	6	12.4	26	5	35-45	Ultra-Broadband	1.5 DFN-6
GRF3016*	0.001-10.0		0.1-10000		13.5	5.2	17	26.5	5	65-80	Ultra-Broadband	1.5 DFN-6
GRF2004	0.1-10.0	0.1-10000 ² 50-300 50-10000	950-1700 2000-6000	7000-8000 9000-10000	16.5	1.9	18	31	1.8-5.0	60-120	Ultra-Broadband	1.5 DFN-6
GRF2003	0.1-10.0	400-6000	1000-5000	1000-10000	12	3.5	15	29	2.7-5.0	40-80	Ultra-Broadband	1.5 DFN-6
GRF3044	0.01-11.0	0.1-11000 ²	5000-6000	9000-11000	16.9	2.1	19.6	31.5	> 5.0	60-120	Ultra-Broadband	1.5 DFN-6
GRF3012*	0.001-12.0		0.1-12000 ²		11	5.6	5	18	5	17-22	Ultra-Broadband	1.5 DFN-6
GRF2710	8.0-13.0		8000-12000		13.9	2.1	13	21	3.0-8.0	20-40	Ultra-Broadband	1.5 DFN-6
GRF3042	0.01-15.0		0.1-15000 ²		14.5	3.4	14.7	26	> 5.0	35-60	Ultra-Broadband	1.5 DFN-6
GRF3010*	0.001-15.0		0.1-15000 ²		14.3	5	5	17.5	5	17-22	Ultra-Broadband	1.5 DFN-6

Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

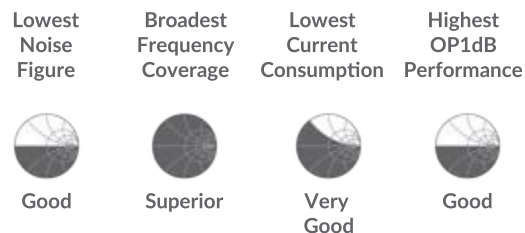
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W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

Note 1: New custom tunes are being added everyday. Be sure to look under the 'Custom Tunes' tab on the product's web page to view the latest set of matching options.

Note 2: Assumes a broadband choke. See datasheet for details.

Broadband LNAs



Broadband LNAs with Bypass

Part Number	Frequency Range (GHz)	Reference Design Tunes ¹ (MHz) [Standard Datasheet Tune in BOLD]			Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF4042	0.4-2.7	415-460 700-960	700-2700 1710-2170	1600-2100 2500-2700	16	0.9	22	36	1.8-5.0	20-180	High Linearity; Ultra-Broadband	2.0 QFN-12
GRF2140	0.1-3.8	85-115	493-547 1700-2200	2000-3000	16.2	1.1	10	23.5	2.7-5.0	6-30		1.5 DFN-6
GRF2374	0.1-3.8	380-480	400-960 1700-2200	820-920	16.5	1.2	10	22	2.7-5.0	10-25	Ultra-Broadband	1.5 DFN-6
GRF2077*	0.7-3.8		1700-2700		17	0.9	22	40	3.0-5.0	70	High Linearity	2.0 DFN-8
GRF2243	0.4-5.0	400-500 900-1000	1700-2100 2300-2700	3400-3800 4400-5000	19.7	0.75	14	23	2.7-5.0	8-25		1.5 DFN-6
GRF2243W*	0.4-5.0		2300-2700		19.7	0.75	14	23	2.7-5.0	8-25	High Gain, Low Noise, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF2043	0.05-6.0		400-2700		18.4	1.6	22	37	2.7-5.0	20-100	High Linearity	1.5 DFN-6
GRF4142	0.1-6.0	30-90 100-150 150-2700 415-460	700-2700 1700-2200 1920-2170 2400-2600	3600-3800 4400-4900 5000-6000	15.3	0.9	19.3	33	1.8-5.0	15-80	Ultra-Broadband	1.5 DFN-6

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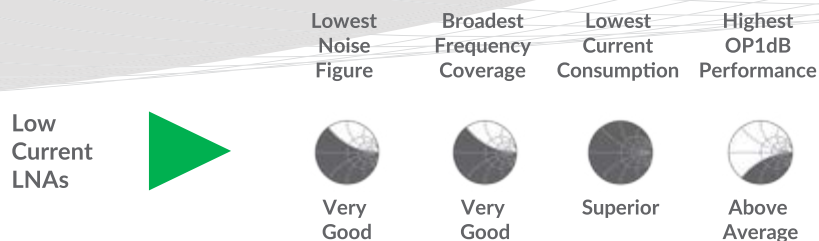
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Note 1: New custom tunes are being added everyday. Be sure to look under the 'Custom Tunes' tab on the product's web page to view the latest set of matching options

Note 2: Assumes a broadband choke. See datasheet for details.



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.



Low Current LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF2100	0.1-3.8	16.5	0.8	10	19	1.8-5.0	6-30	Low Cost	1.5 DFN-6
GRF2373	0.1-3.8	18.5	1.2	12.5	25	2.7-5.0	10-25	Low Cost	1.5 DFN-6
GRF2108*	0.1-3.8	17	0.9	17.5	19	1.8-5.0	4-20	High Gain, Low Noise, Low Cost	1.5 DFN-6
GRF2201	0.4-3.8	20.5	0.8	12	26	2.7-5.0	10-30	High Gain	1.5 DFN-6
GRF2130*	0.7-3.8	32	1.2	14	17	1.8-5.0	15-50	Ultra-High Gain	1.5 DFN-6
GRF2106	0.1-4.2	20.5	0.8	12	26	2.7-5.0	8-30	High Gain	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	15-100	Flat Gain	1.5 DFN-6
GRF2012W	0.05-6.0	14.8	2.7	23	40	2.7-8.0	15-100	Flat Gain, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF2501	4.9-6.0	16	1	7	19	2.7-5.0	12-28		1.5 DFN-6
GRF2501W	4.9-6.0	16	1	7	19	2.7-5.0	12-28	AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	Flat Gain	1.5 DFN-6
GRF2013W	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	Flat Gain, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF2101	4.0-10.0	18	0.9	10	22	2.7-5.0	12-28	Low Cost	1.5 DFN-6
GRF2101W*	4.0-10.0	18	0.9	10	22	2.7-5.0	12-28	Low Cost, AEC-Q100 Automotive Qualified	1.5 DFN-6

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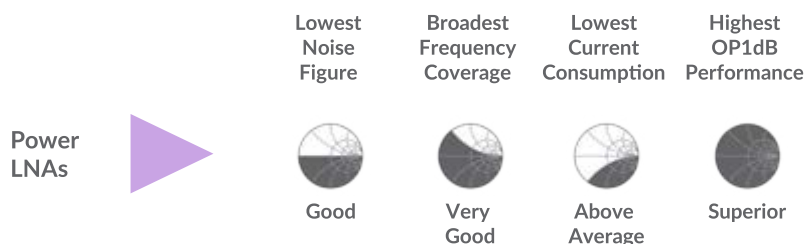
Low Current LNAs with Bypass

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF2140	0.1-3.8	16.2	1.1	10	23.5	2.7-5.0	6-30		1.5 DFN-6
GRF2374	0.1-3.8	16.5	1.2	10	22	2.7-5.0	10-25		1.5 DFN-6
GRF2243	0.4-5.0	19.7	0.75	14	23	2.7-5.0	8-25	High Gain	1.5 DFN-6
GRF2243W*	0.4-5.0	19.7	0.75	14	23	2.7-5.0	8-25	High Gain, Low Noise, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF2043	0.05-6.0	18.4	1.6	22	37	2.7-5.0	20-100	High Gain; High Linearity	1.5 DFN-6
GRF2042	0.05-6.0	15	2.3	22	39	2.7-5.0	20-100	Flat Gain; High Linearity	1.5 DFN-6
GRF2541	4.9-6.0	16.4	1	7	19	2.7-5.0	12-28		1.5 DFN-6
GRF2543	4.9-6.0	14.4	1	13.4	25.5	2.7-5.0	15		1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

 Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.



Power LNAs

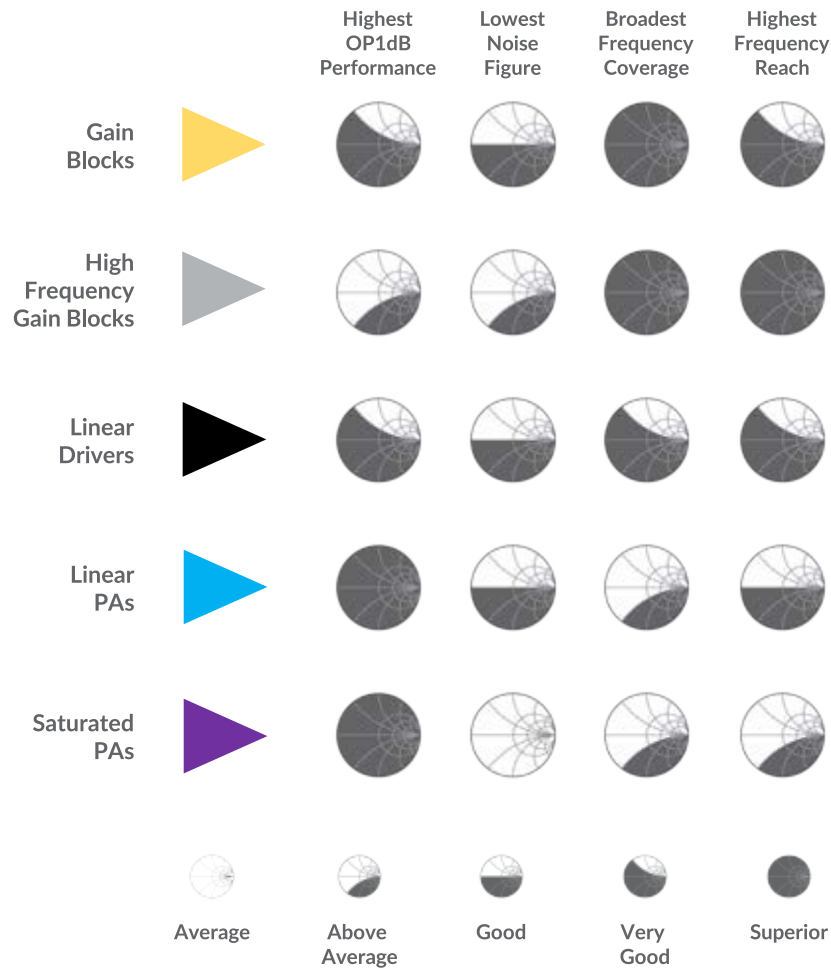
Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF5109	0.4-1.5	17.9	1.2	28.3	45	2.7-5.0	50-200		3.0 QFN-16
GRF5115	0.1-2.7	14.8	1.4	33	45	2.7-5.0	100-300	Highest Linearity	3.0 QFN-16
GRF5110	1.5-2.7	15	0.9	28.8	45	2.7-5.0	50-200	Lowest Noise	3.0 QFN-16
GRF5020	0.1-3.8	17.3	0.8	24.5	37.2	4.5-10.0	50-200	Lowest Noise	3.0 QFN-16
GRF5040	0.1-3.8	15	0.85	29.8	46.3	4.5-10.0	100-250	Lowest Noise	3.0 QFN-16
GRF5010	0.05-6.0	17	0.82	24.5	38.5	4.5-9.0	50-150	Lowest Noise, Broad Frequency Range	3.0 QFN-16
GRF5511	0.7-6.0	20.1	1.5	26.1	39.6	4.5-9.0	50-200	High Gain, Broad Frequency Range	3.0 QFN-16

 Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

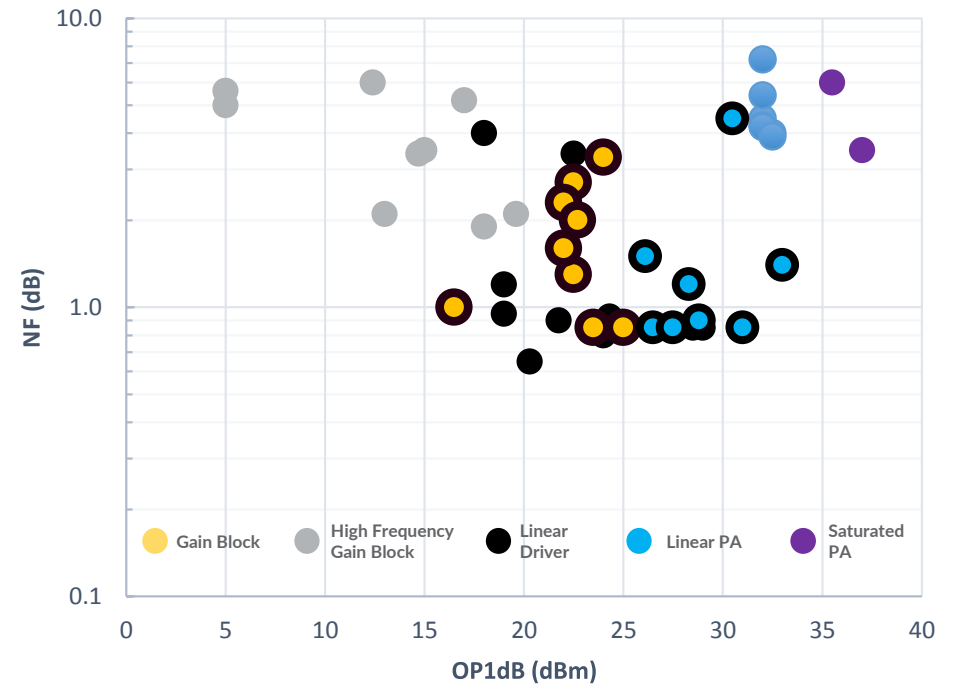
GRF Gain Blocks, Drivers, & PAs

Guerrilla RF has over 35 medium and high-power amplifier cores which have been optimized for linearity over a variety of RF and microwave frequency ranges.

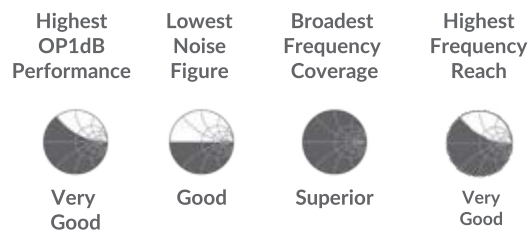
Use the categories below as a guide to discovering the ideal component for your specific application.



GRF's Industry-Leading Portfolio of Medium & High Power Amplifier Cores cover the entire spectrum of performance for NF and Compression



Gain Blocks



High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Reference Design Tunes ¹ (MHz) [Standard Datasheet Tune in BOLD]			Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF2011	0.05-3.8	20-70 40-60	174-240 450-520	700-3800	15.2	2	22.7	40	2.7-8.0	15-100		1.5 DFN-6
GRF2014	0.05-3.8	100-1800	500-3000	1500-2400	15.9	3.3	24	43.5	2.7-8.0	50-180	Flat Gain	1.5 DFN-6
GRF4002	0.1-3.8	15-50 20-40 70-110	100-1000 100-3600 430-870 700-3600	1100-1700 1200-1400 2320-2345	15	0.85	23.5	36.5	1.8-5.0	20-80	Low Noise	1.5 DFN-6
GRF4002W	0.1-3.8		700-3600		15	0.85	23.5	36.5	1.8-5.0	20-80	Low Noise, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF4003	0.1-3.8	10-500 30-450	100-3800 700-3600	868-915	13	0.85	25	41	1.8-5.0	30-120	Low Noise	1.5 DFN-6
GRF4012*	0.4-4.2		2320-2345		17.8	0.9	21	32	1.8-5.0	20-80	High Gain, Low Noise	1.5 DFN-6
GRF4012W*	0.4-4.2		2320-2345		17.8	0.9	21	32	1.8-5.0	20-80	High Gain, Low Noise, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF2010	0.05-5		400-4000		10.5	3.1	20.5	32.5	2.7-8.0	15-100	Broadband, Low Noise	1.5 DFN-6
GRF2012	0.05-6.0	50-6000 700-900	700-1200 400-3800	1700-2000 2500-2700	15	2.7	22.5	40	2.7-8.0	30-120	Flat Gain	1.5 DFN-6
GRF2012W	0.05-6.0		400-3800		14.8	2.7	23	40	2.7-8.0	15-100	Flat Gain, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF4001	0.1-6.0	100-5500	3300-3800		15.5	1	16.5	30.5	1.8-5.0	5-50	Low Noise	1.5 DFN-6
GRF2013	0.05-8.0	50-100 50-2200 70-6000 100-500 100-1000 400-1000	700-900 700-3800 800-860 800-860 1200-1500 1700-2000 2000-6000	2500-2700 3000-6000 3400-3800 5855-5925 6000-7000 7750-8250	18.5	1.3	22.5	38.5	2.7-8.0	15-100	Low Noise, Flat Gain	1.5 DFN-6
GRF2013W	0.05-8.0		700-3800		18.5	1.3	22.5	38.5	2.7-8.0	15-100	Low Noise, Flat Gain, AEC-Q100 Automotive Qualified	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

Note 1: New custom tunes are being added everyday. Be sure to look under the 'Custom Tunes' tab on the product's web page to view the latest set of matching options.



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

Gain
Blocks



Highest
OP1dB
Performance



Very
Good

Lowest
Noise
Figure



Good

Broadest
Frequency
Coverage



Superior

Highest
Frequency
Reach



Very
Good



High Linearity Gain Blocks with Bypass

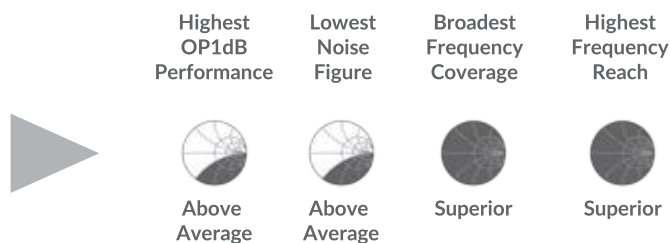
Part Number	Frequency Range (GHz)	Reference Design Tunes ¹ (MHz) [Standard Datasheet Tune in BOLD]			Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF2043	0.05-6.0	400-2700	700-5000		18.4	1.6	22	37	2.7-5.0	20-100	Low Noise	1.5 DFN-6
GRF2042	0.05-6.0	600-2700	3500-4500	5000-6000	15	2.3	22	39	2.7-5.0	20-100	Flat Gain	1.5 DFN-6

Note 1: New custom tunes are being added everyday. Be sure to look under the 'Custom Tunes' tab on the product's web page to view the latest set of matching options.



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

High Frequency Gain Blocks



High Frequency Gain Blocks

Part Number	Frequency Range (GHz)	Reference Design Tunes ¹ (MHz) [Standard Datasheet Tune in BOLD]			Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF3014*	0.001-9.0	1-9000 ²			10	6	12.4	26	5	35-45	Ultra-Flat Gain, Near-DC Frequency Operation	1.5 DFN-6
GRF3016*	0.001-10.0	1-10000 ²			13.5	5.2	17	26.5	5	65-80	Flat Gain, Near-DC Frequency Operation	1.5 DFN-6
GRF2004	0.1-10.0	50-300 50-10000	100-10000 950-1700 2000-6000	7000-8000 9000-10000	16.5	1.9	18	31	1.8-5.0	60-120	Low Noise	1.5 DFN-6
GRF2003	0.1-10.0	400-6000	1000-5000 1000-10000		12	3.5	15	29	2.7-5.0	40-80		1.5 DFN-6
GRF3044	0.01-11.0	100-10000	100-12000 5000-6000	9000-11000	16.9	2.1	19.6	31.5	> 5.0	60-120	Low Noise	1.5 DFN-6
GRF3012*	0.001-12.0	1-12000 ²			11	5.6	5	18	5	17-22	Flat Gain, Near DC Frequency Operation	1.5 DFN-6
GRF2710	8.0-12.0	8000-12000			13.9	2.1	13	21	3.0-8.0	20-40	Low Noise	1.5 DFN-6
GRF3010*	0.001-15.0	1-15000 ²			14.3	5	5	17.5	5	17-22	Low Current	1.5 DFN-6
GRF3042	0.01-15.0	100-15000			14.5	3.4	14.7	26	> 5.0	35-60		1.5 DFN-6

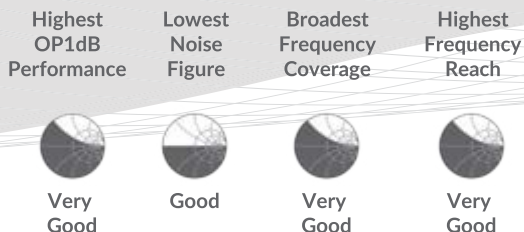
* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Note 1: New custom tunes are being added everyday. Be sure to look under the 'Custom Tunes' tab on the product's web page to view the latest set of matching options.

Note 2: Assumes a broadband choke. See datasheet for details.



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.



Linear Drivers

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF5109	0.4-1.5	17.9	1.2	28.3	45	2.7-5.0	50-200	High Linearity, Low Noise	3.0 QFN-16
GRF5115	0.1-2.7	14.8	1.4	33	45	2.7-5.0	100-300	Ultra-High Linearity	3.0 QFN-16
GRF2114	0.1-2.7	17.9	0.93	24.3	40.2	1.8-5.0	30-150	Low Noise	2.0 DFN-8
GRF2133	0.4-2.7	28.5	0.65	20.3	30	1.8-5.0	30-160	Ultra-High Gain, Ultra-low Noise	1.5 DFN-6
GRF5110	1.5-2.7	15	0.9	28.8	45	2.7-5.0	50-200	High Linearity, Low Noise	3.0 QFN-16
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100		1.5 DFN-6
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	Flat Gain	1.5 DFN-6
GRF4005	0.1-3.8	13	0.85	27.5	43	1.8-5.0	50-200	High Linearity, Low Noise	1.5 DFN-6
GRF4004	0.1-3.8	12.7	0.85	26.5	43	1.8-5.0	30-150	High Linearity, Low Noise	1.5 DFN-6
GRF4003	0.1-3.8	13	0.85	25	41	1.8-5.0	30-120	High Linearity, Low Noise	1.5 DFN-6
GRF4002	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	Low Noise	1.5 DFN-6
GRF4002W	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	Low Noise, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF5040	0.1-3.8	15	0.85	29.8	46.3	4.5-10.0	100-250	High Linearity, Low Noise	3.0 QFN-16
GRF5020	0.1-3.8	17.3	0.8	24.5	37.2	4.5-10.0	50-200	High Linearity, Low Noise	3.0 QFN-16
GRF4100*	0.1-3.8	16.5	3.4	22.5	31.5	2.7-5.0	20-40	High Gain, Internally Matched	1.5 DFN-6
GRF4200*	0.1-3.8	21.5	4	18	35.5	2.7-5.0	5-40	High Gain, Internally Matched	1.5 DFN-6
GRF4205*	0.4-3.8	20	4.5	30.5	51	3.0-9.0	500	High Reverse Isolation	3.0 QFN-16
GRF4012*	0.4-4.2	17.8	0.9	21	32	1.8-5.0	20-80	High Gain, Low Noise	1.5 DFN-6
GRF4012W*	0.4-4.2	17.8	0.9	21	32	1.8-5.0	20-80	High Gain, Low Noise, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF2010	0.05-5.0	10.5	3.1	20.5	32.5	2.7-8.0	15-100	Broadband, Low Noise, Internally Matched	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	Flat Gain, Broad Frequency Range	1.5 DFN-6
GRF2012W	0.05-6.0	14.8	2.7	23	40	2.7-8.0	15-100	Flat Gain, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF5010	0.05-6.0	17	0.82	24.5	38.5	4.5-9.0	50-150	Low Noise	3.0 QFN-16
GRF4001	0.1-6.0	15.5	1	16.5	30.5	1.8-5.0	5-50	Low Noise	1.5 DFN-6
GRF4014	0.1-6.0	16.5	0.8	24	39	3.0-8.0	30-130	Low Noise	1.5 DFN-6
GRF4014W	0.1-6.0	17	0.8	24	39	3.0-8.0	30-130	Low Noise, AEC-Q100 Automotive Qualified	1.5 DFN-6
GRF5511	0.7-6.0	20.1	1.5	26.1	39.6	4.5-9.0	50-200	High Linearity	3.0 QFN-16
GRF2505	4.0-6.0	12.5	1.2	19	30	1.8-5.0	20-60		1.5 DFN-6
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	Flat Gain, Broad Frequency Range	1.5 DFN-6
GRF2013W	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	Flat Gain, Broad Frequency Range, AEC-Q100 Automotive Qualified	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.
W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

Linear Drivers with Bypass

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF4042	0.4-2.7	16	0.9	22	36	1.8-5.0	20-180	Low Noise	2.0 QFN-12
GRF2042	0.05-6.0	15	2.3	22	39	2.7-5.0	20-100	Flat Gain, Broad Frequency Range	1.5 DFN-6
GRF2043	0.05-6.0	18.4	1.6	22	37	2.7-5.0	20-100	Broad Frequency Range	1.5 DFN-6
GRF4142	0.1-6.0	15.3	0.9	19.3	33	1.8-5.0	15-80	Low Noise, Single Logic Control	1.5 DFN-6

Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

Linear
PAs



Highest
OP1dB
Performance



Superior

Lowest
Noise
Figure



Good

Broadest
Frequency
Coverage



Above
Average

Highest
Frequency
Reach



Good

Linear Power Amplifiers

Part Number	Frequency Range (GHz)	Rated P _{OUT} ¹ (dBm)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Features	Package (mm)
GRF5506	0.66-0.72	24 ¹	28.4	4.5	33.3	46.8	5	290 ³	High Gain, High Efficiency, Exceptionally Rugged	3.0 QFN-16
GRF5507	0.7-0.8	24 ¹	30.5	4.5	33.4	47.3	5	305 ³	High Gain, High Efficiency, Exceptionally Rugged	3.0 QFN-16
GRF5508	0.8-0.9	24 ¹	29.7	4.5	33.1	45.4	5	302 ³	High Gain, High Efficiency, Exceptionally Rugged	3.0 QFN-16
GRF5510	0.88-0.96	24 ¹	29.2	4.5	33.8	46.1	5	352 ³	High Gain, High Efficiency, Exceptionally Rugged	3.0 QFN-16
GRF5109	0.4-1.5	22.5 ¹	17.9	1.2	28.3	45	2.7-5.0	50-200	Low Noise, Flexible Bias	3.0 QFN-16
GRF5517	1.7-1.8	23 ¹	27.5	5.4	32	48	5	305 ³	High Gain, High Efficiency, Exceptionally Rugged	3.0 QFN-16
GRF5518	1.8-1.91	23 ¹	27	4.2	32	45	5	310 ³	High Gain, High Efficiency, Exceptionally Rugged	3.0 QFN-16
GRF5519	1.92-2.0	23 ¹	26.5	4.1	32	45	5	310 ³	High Gain, High Efficiency, Exceptionally Rugged	3.0 QFN-16
GRF5521*	2.11-2.17	23 ¹	31	3.1	33	45	5	250 ³	High Gain, High Efficiency, Exceptionally Rugged	3.0 QFN-16
GRF5115	0.1-2.7		14.8	1.4	33	45	2.7-5.0	100-300	Low Noise, Flexible Bias	3.0 QFN-16
GRF5110	1.5-2.7		15	0.9	28.8	45	2.7-5.0	50-200	Low Noise, Flexible Bias	3.0 QFN-16
GRF4004	0.1-3.8		12.7	0.85	26.5	43	1.8-5.0	30-150	Low Noise, Flexible Bias	1.5 DFN-6
GRF4005	0.1-3.8		13	0.85	27.5	43	1.8-5.0	50-200	Low Noise, Flexible Bias	1.5 DFN-6
GRF5040	0.1-3.8		15	0.85	29.8	46.3	4.5-10.0	100-250	Low Noise, Flexible Bias	3.0 QFN-16
GRF4205*	0.4-3.8		20	4.5	30.5	51	3.0-9.0	500	High Gain, High Linearity, High Reverse Isolation, Flexible Bias	3.0 QFN-16
GRF5511	0.7-6.0		20.1	1.5	26.1	39.6	4.5-9.0	50-200	High Gain, Low Noise, Flexible Bias	3.0 QFN-16
GRF5558*	5.77-6.0	25.5 ²	27	4.5	32	45	5	590 ³	High Gain, High Linearity, Ideal for Automotive V2X	3.0 QFN-16

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Note 1: Rated P_{OUT} Yields Better Than -45dBc ACLR (LTE 20MHz 100RB TM1.1 Downlink Waveform with 9.8dB PAR).

Note 2: Rated P_{OUT} for DSRC/802.11p operation.

Note 3: I_{DD} with RF power applied.

Guerrilla Bloc™ Linear Power Amplifier Modules

Part Number	Frequency Range (GHz)	Rated P _{OUT} ¹ (dBm)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} (mA)	Features	Package (mm)
GRF5406*	0.66-0.72	24	28.4	4.5	33.3	46.8	5	290 ²	High Gain, High Efficiency, Exceptionally Rugged	3.5 LFM
GRF5407*	0.7-0.8	24	30.5	4.5	33.4	47.3	5	305 ²	High Gain, High Efficiency, Exceptionally Rugged	3.5 LFM
GRF5408*	0.8-0.9	24	29.7	4.5	33.1	45.4	5	302 ²	High Gain, High Efficiency, Exceptionally Rugged	3.5 LFM
GRF5410*	0.88-0.96	24	29.2	4.5	33.8	46.1	5	352 ²	High Gain, High Efficiency, Exceptionally Rugged	3.5 LFM
GRF5417*	1.7-1.8	22.5	27.5	5.4	32	48	5	305 ²	High Gain, High Efficiency, Exceptionally Rugged	3.5 LFM
GRF5418*	1.8-1.91	23	27	4.2	32	45	5	310 ²	High Gain, High Efficiency, Exceptionally Rugged	3.5 LFM
GRF5419*	1.92-2.0	23	26.5	4.1	32	45	5	310 ²	High Gain, High Efficiency, Exceptionally Rugged	3.5 LFM
GRF5421*	2.11-2.17	23	31	3.1	33	45	5	250 ²	High Gain, High Efficiency, Exceptionally Rugged	3.5 LFM

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Note 1: Rated P_{OUT} Yields Better Than -45dBc ACLR (LTE 20MHz 100RB TM1.1 Downlink Waveform with 9.8dB PAR).

Note 2: I_{DD} with RF power applied.

 Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

Saturated
PAs



Highest
OP1dB
Performance



Superior

Lowest
Noise
Figure



Average

Broadest
Frequency
Coverage



Above
Average

Highest
Frequency
Reach



Above
Average

► Saturated Power Amplifiers

Part Number	Frequency Range (GHz)	Rated P_{OUT} (dBm)	Gain (dB)	OP1dB (dBm)	P_{SAT} (dBm)	PAE (%)	V_{DD} Range (V)	I_{DD} (mA)	Features	Package (mm)
GRF5504	0.4-0.5	35	41	34	35.5	64	3.5-5	120 ¹	High Efficiency, High Power	3.0 QFN-16
GRF5509	0.7-1.0	36	33.4	35.5	36.4	55	3.5-5	125 ¹	High Efficiency, High Power	3.0 QFN-16

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Note 1: Quiescent current.



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

RF Switches

Part Number	Switch Type	Frequency Range (GHz)	Rated Power (W)	Path	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	Special Features	Package (mm)
GRF6001*	SPDT	0.1 - 10.0	1W	RFC to RF1: RFC to RF2:	-1 -1	26 26	50 50	3.0-5.0	High Frequency Operation	1.5 DFN-6
GRF6011	SPDT	0.1 - 6.0	1W	RFC to RF1: RFC to RF2:	-0.43 -0.33	32 30.5	49.5 51	3.0-5.0	Failsafe Mode (Upon Loss of Power, RFC to RF1 Defaults to Open, RFC to RF2 Defaults to Close)	1.5 DFN-6
GRF6011W*	SPDT	0.1 - 6.0	1W	RFC to RF1: RFC to RF2:	-0.43 -0.33	32 30.5	49.5 51	3.0-5.0	Failsafe Mode (Upon Loss of Power, RFC to RF1 Defaults to Open, RFC to RF2 Defaults to Close), AEC-Q100 Automotive Qualified	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.
W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

RF Power Detectors

Part Number	Detector Type	Frequency Range (GHz)	RF Input Power Range (dBm)	Output Voltage Range (V)	Slope (mV/dB)	Intercept (dBm)	V _{DD} Range (V)	I _{DD} (mA)	Special Features	Package (mm)
GRF1201	Logarithmic Average Power Detector	0.1-6.0	-20 to +20	1.1-4.3	80	-33.2	2.7-5.0	7	Broadband, Low Current	1.5 DFN-6
GRF1201W	Logarithmic Average Power Detector	0.1-6.0	-20 to +20	1.1-4.3	80	-33.2	2.7-5.0	7	Broadband, Low Current, AEC-Q100 Automotive Qualified	1.5 DFN-6

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

Mixers

Part Number	Description	RF/IF (GHz)	LO (GHz)	Conv Gain (dB)	IP1dB (dBm)	IIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF7001	Linear TX/RX Mixer with Integrated LO Buffer	0.1-4.0	0.1-4.0	-6	>17.0	25	3.0-5.0	10-30	Ideal for both TX and RX Applications	1.5 DFN-6
GRF7034*	Linear RX Mixer with Integrated LO Buffer and IF Amplifier	0.1-4.0	0.1-4.0	11.8	0	11	3	26	Ideal for RX Applications, IF Amplifier Integration	2.0 QFN-12
GRF7042*	Double-Balanced TX/RX Mixer with Integrated LO Buffer	0.1-5.0	0.1-4	-7.5	> 13	23.5	3.0-5.0	18.3	Ideal for both TX and RX Applications, Increased Linearity, Better Spurious Suppression, Low LO Drive Levels	2.0 QFN-12

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

 Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

AUTOMOTIVE SOLUTIONS





AEC-Q100 Automotive Qualified Devices

► Amplifiers

Part Number	Device Type	Frequency Range (GHz)	Datasheet Tune (MHz)	Reference Conditions	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Features	Package (mm)
GRF2071W	Ultra-LNA	0.7-2.7	1700-2700	5V/60mA/2332.5MHz	19	0.35	21	38	2.7-5.0	20-100	Ultra-low Noise; High Gain	2.0 DFN-8
GRF2073W	Ultra-LNA	3.0-6.0	2320-2345	5V/70mA/2332.5MHz	20.5	0.4	19.8	35	2.7-5.0	20-100	Ultra-low Noise; High Gain	2.0 DFN-8
GRF2093W	Ultra-LNA	1.0-6.0	2300-2700	5V/70mA/2332.5MHz	21	0.37	19	36	2.7-5.0	30-100	Ultra-low Noise; High Gain	1.5 DFN-6
GRF2501W	Ultra-LNA	4.9-9.0	5100-5925	3.3V/15mA/5.5GHz	16	1	7	19	2.7-5.0	12-28	Broadband; Low Current	1.5 DFN-6
GRF4002W	Ultra-LNA / Linear Driver	0.1-3.8	700-3800	5V/70mA/2.5GHz	15	0.85	23.5	36.5	1.8-5.0	20-80	High Linearity; Low Noise	1.5 DFN-6
GRF4012W*	Broadband LNA / Linear Driver	0.4-4.2	2320-2345	5V/50mA/2332.5MHz	17.8	0.9	21	32	1.8-5.0	20-80	High Gain; Low Noise	1.5 DFN-6
GRF4014W	Broadband LNA / Linear Driver	0.1-6.0	1700-3800	5V/60mA/2332.5MHz	17	0.8	24	39	3.0-8.0	30-130	High Linearity; Low Noise; Broadband	1.5 DFN-6
GRF2101W*	Low Current LNA	4.0-10.0	5100-5925	3.3V/18mA/5.5GHz	18	0.9	10	22	2.7-5.0	12-28	Low Noise; Broadband	1.5 DFN-6
GRF2243W*	LNA with Bypass	0.4-5.0	2300-2700	3.3V/15mA/2.5GHz	19.7	0.75	14	23	2.7-5.0	8-25	High Gain; Low Noise; Bypass	1.5 DFN-6
GRF2012W	Broadband Gain Block	0.05-6.0	400-3800	5V/90mA/900MHz	14.8	2.7	23	40	2.7-8.0	15-100	Flat Gain; High Linearity	1.5 DFN-6
GRF2013W	Broadband Gain Block	0.05-8.0	700-3800	5V/90mA/1.9GHz	18.5	1.3	22.5	38.5	2.7-8.0	15-100	Flat Gain; High Linearity	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.



RF Switches

Part Number	Switch Type	Frequency Range (GHz)	Rated Power (W)	Path	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	Special Features	Package (mm)
GRF6011W*	SPDT	0.1 - 6.0	1W	RFC to RF1: RFC to RF2:	-0.43 -0.33	32 30.5	49.5 51	3.0-5.0	Failsafe Mode (Upon Loss of Power, RFC to RF1 Defaults to Open, RFC to RF2 Defaults to Close), AEC-Q100 Automotive Qualified	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

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RF Power Detectors

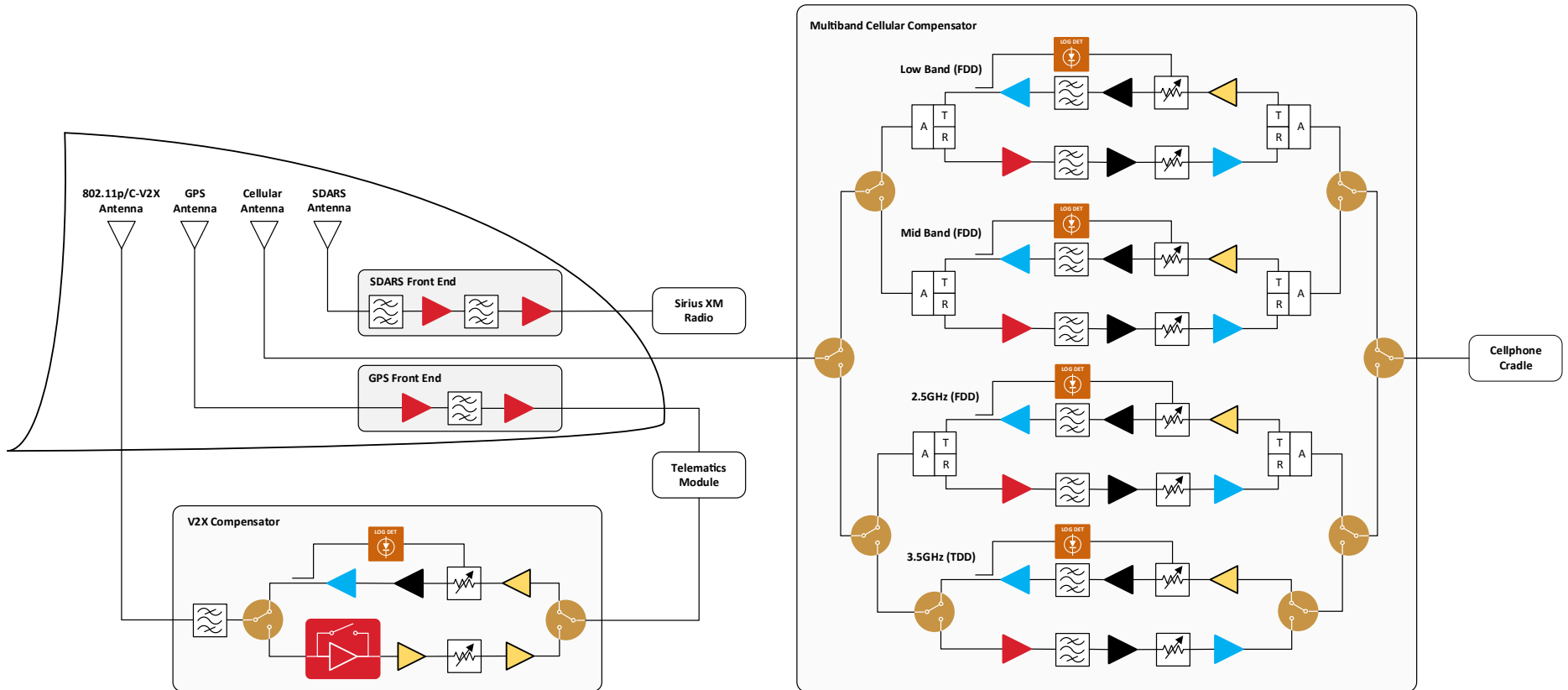
Part Number	Detector Type	Frequency Range (GHz)	RF Input Power Range (dBm)	Output Voltage Range (V)	Slope (mV/dB)	Intercept (dBm)	V _{DD} Range (V)	I _{DD} (mA)	Special Features	Package (mm)
GRF1201W	Logarithmic Average Power Detector	0.1-6.0	-20 to +20	1.1-4.3	80	-33.2	2.7-5.0	7	Broadband, Low Current	1.5 DFN-6

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

 Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

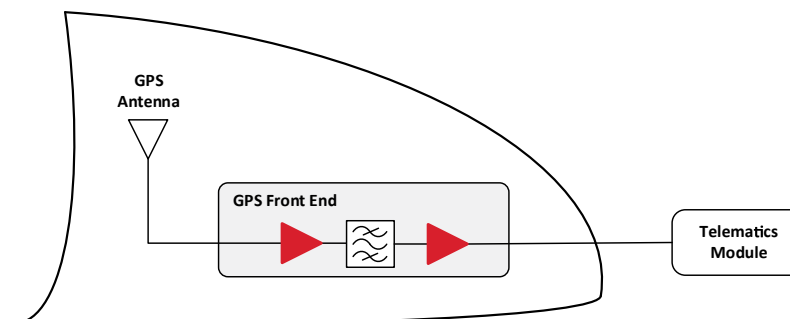


Automotive Solutions Overview





GPS/GNSS Front End Solutions



▶ LNAs

Part Number	Device Type	Frequency Range (GHz)	Datasheet Tune (MHz)	Reference Conditions	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Features	Package (mm)
GRF2070	Ultra-LNA	0.1-1.5	700-960	5V/70mA/900MHz	20.8	0.35	20	39.5	2.7-5.0	20-100	Ultra-low Noise; High Gain	2.0 DFN-8
GRF2071	Ultra-LNA	0.7-2.7	2320-2345	5V/70mA/2332.5MHz	19	0.35	21	38	2.7-5.0	20-100	Ultra-low Noise; High Gain	2.0 DFN-8
GRF2071W	Ultra-LNA	0.7-2.7	1700-2700	5V/60mA/2332.5MHz	19	0.35	21	38	2.7-5.0	20-100	Ultra-low Noise; High Gain	2.0 DFN-8

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

GRF2071/2071W Performance with Single Match Tune for GPS/GNSS Bands L1, L2 & L5

Frequency (MHz)	V _{DD} (V)	I _{DDQ} (mA)	V _{EN} (V)	I _{EN} (mA)	P _{OUT} / Tone (dBm)	Gain (dB)	IIP3 (dBm)	OIP3 (dBm)	IP1dB (dBm)	OP1dB (dBm)	NF (dB)
1100	5.0	61.4	5.0	2.5	0.0	22.9	12.4	35.3	-5.4	16.5	0.39
1200	5.0	61.4	5.0	2.5	0.0	22.7	13.9	36.6	-4.9	16.7	0.39
1300	5.0	61.4	5.0	2.5	0.0	22.2	14.6	36.9	-4.3	16.9	0.39
1400	5.0	61.5	5.0	2.5	0.0	21.7	16.0	37.7	-3.2	17.5	0.38
1500	5.0	61.5	5.0	2.5	0.0	21.0	17.1	38.2	-1.8	18.2	0.38
1600	5.0	61.5	5.0	2.5	0.0	20.3	18.6	38.9	-0.6	18.7	0.38
1700	5.0	61.6	5.0	2.5	0.0	19.6	19.9	39.5	0.7	19.3	0.38

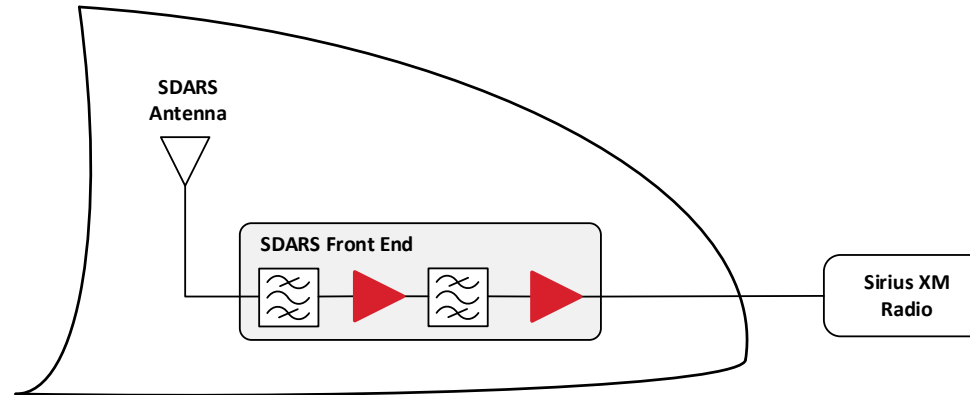
GRF2070 Performance with Single Match Tune for GPS/GNSS Bands L1, L2 & L5

Frequency (MHz)	V _{DD} (V)	I _{DDQ} (mA)	V _{EN} (V)	I _{EN} (mA)	P _{OUT} / Tone (dBm)	Gain (dB)	IIP3 (dBm)	OIP3 (dBm)	IP1dB (dBm)	OP1dB (dBm)	NF (dB)
1100	5.0	67.8	2.4	4	4.0	19.1	22.1	41.2	1.4	19.4	0.39
1300	5.0	67.8	2.4	4	4.0	18.0	23.8	41.8	3.0	19.9	0.42
1500	5.0	67.8	2.4	4	4.0	16.6	24.3	40.9	5.0	20.5	0.42
1700	5.0	67.8	2.4	4	4.0	15.2	26.3	41.5	6.4	20.6	0.42

 Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.



SDARS Front End Solutions



First Stage LNAs

Part Number	Device Type	Frequency Range (GHz)	Datasheet Tune (MHz)	Reference Conditions	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Features	Package (mm)
GRF2071W	Ultra-LNA	0.7-2.7	1700-2700	5V/60mA/2332.5MHz	19	0.35	21	38	2.7-5.0	20-100	Ultra-low Noise; High Gain	2.0 DFN-8
GRF2073W	Ultra-LNA	3.0-6.0	2320-2345	5V/70mA/2332.5MHz	20.5	0.4	19.8	35	2.7-5.0	20-100	Ultra-low Noise; High Gain	2.0 DFN-8
GRF2074	Ultra-LNA	1.0-6.0	2320-2345	5V/70mA/2332.5MHz	20.5	0.35	17.5	35.5	2.7-5.0	20-100	Ultra-low Noise; High Gain	2.0 DFN-8
GRF2093W	Ultra-LNA	1.0-6.0	2300-2700	5V/70mA/2332.5MHz	21	0.37	19	36	2.7-5.0	30-100	Ultra-low Noise; High Gain	1.5 DFN-6

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

Second Stage LNAs

Part Number	Device Type	Frequency Range (GHz)	Datasheet Tune (MHz)	Reference Conditions	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Features	Package (mm)
GRF2073W	Ultra-LNA	3.0-6.0	2320-2345	5V/70mA/2332.5MHz	20.5	0.4	19.8	35	2.7-5.0	20-100	Ultra-low Noise; High Gain	2.0 DFN-8
GRF4002W	Ultra-LNA / Linear Driver	0.1-3.8	700-3800	5V/70mA/2.5GHz	15	0.85	23.5	36.5	1.8-5.0	20-80	High Linearity; Low Noise	1.5 DFN-6
GRF4012W*	Broadband LNA / Linear Driver	0.4-4.2	2320-2345	5V/50mA/2332.5MHz	17.8	0.9	21	32	1.8-5.0	20-80	High Gain; Low Noise	1.5 DFN-6
GRF4014W	Broadband LNA / Linear Driver	0.1-6.0	1700-3800	5V/60mA/2332.5MHz	17	0.8	24	39	3.0-8.0	30-130	High Linearity; Low Noise; Broadband	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

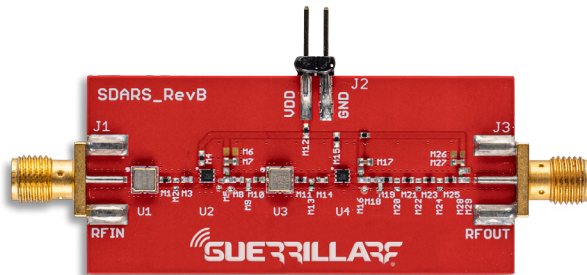


Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

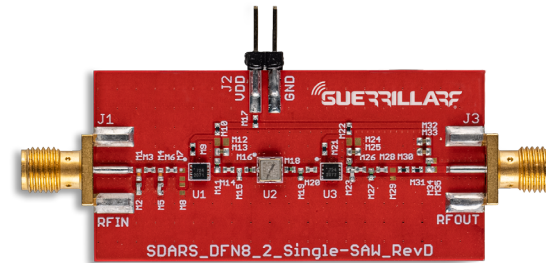


SDARS Front End Solutions, cont'd.

Dual SAW Reference Design



Single SAW Reference Design



Cascaded Performance of GRF's SDARS Single and Dual SAW Front End Reference Designs

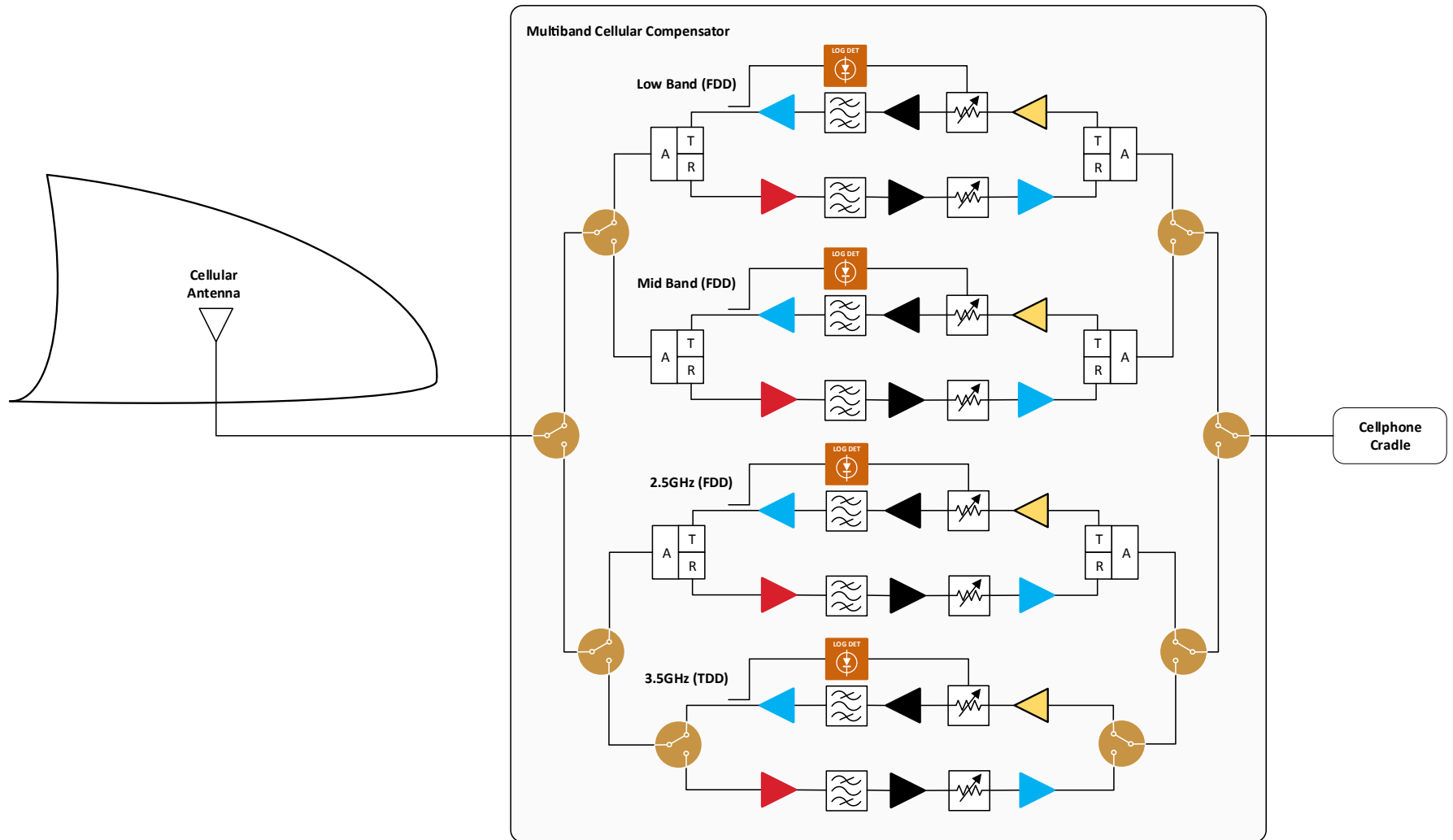
Config	First Stage LNA	2nd Stage LNA	Solution Cost Ranking	Performance Ranking	Key Differentiators	Maximum Blocker P_{IN} Meeting OOB Rejection	IMRR Margin to Spec (Typ)	IMRR Margin to Spec (Worst Case)	G (dB)	NF (dB)	IIP3 (dBm)	IP1dB (dBm)	V_{DD} (V)	I_{DD} (mA)
Dual SAW	2093W	4014W	5	1	Higher G, Best OOB Rejection, Best IMRR	10+	13	7.5	33.7	0.88	1.6	-10.9	5	100
	2074W	4014W	4	2	Performance Same as Above, GRF2074 Uses Common 2x2mm Pkg	10+	13	7.5	33.7	0.88	1.6	-10.9	5	100
	2073W	4002W	3	3	Cheaper Alternative	6	10	2.5	31	0.95	2	-7.5	5	100
	2073W	4012W	2	4	Cheaper Alternative, Slightly Higher Gain	5.5	10	2.5	32	0.95	-1	-10.5	5	100
Single SAW	2071W	2073W	1	5	Significant Cost Savings by Using Only 1 SAW Filter, Can Only be Used in Absence of Co-Located Cellular Antenna.	-5	7.5	2	33.6	0.78	1.6	-14.5	5	87



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.



Cellular Compensator Solutions



LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2070	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2071W	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	2.0 DFN-8
GRF4002W	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF2100	0.1-3.8	16.5	0.8	10	19	1.8-5.0	6-30	1.5 DFN-6
GRF2108*	0.1-3.8	17	0.9	17.5	19	1.8-5.0	4-20	1.5 DFN-6
GRF2106	0.1-4.2	20.5	0.8	12	26	2.7-5.0	8-30	1.5 DFN-6
GRF2105	0.4-5.0	20.7	0.77	22.5	36	2.7-5.0	20-90	1.5 DFN-6
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073W	3.0-6.0	20.5	0.4	19.8	35	2.7-5.0	20-100	2.0 DFN-8

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100	1.5 DFN-6
GRF2100	0.1-3.8	16.5	0.8	10	19	1.8-5.0	6-30	1.5 DFN-6
GRF2373	0.1-3.8	18.5	1.2	12.5	25	2.7-5.0	10-25	1.5 DFN-6
GRF4002W	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF2012W	0.05-6.0	14.8	2.7	23	40	2.7-8.0	15-100	1.5 DFN-6
GRF2013W	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

Linear Drivers

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2012W	0.05-6.0	14.8	2.7	23	40	2.7-8.0	15-100	1.5 DFN-6
GRF5511	0.7-6.0	20.1	1.5	26.1	39.6	4.5-9.0	50-200	3.0 QFN-16
GRF2505	4.0-6.0	12.5	1.2	19	30	1.8-5.0	20-60	1.5 DFN-6
GRF2013W	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

Linear Power Amplifiers (Discretes & Modules)

Part Number	Frequency Range (GHz)	Rated P _{OUT} ¹ (dBm)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} (V)	I _{DD} (mA)	Package (mm)
GRF5506	0.66-0.72	24	28.4	4.5	33.3	46.8	5	290 ²	3.0 QFN-16
GRF5507	0.7-0.8	24	30.5	4.5	33.4	47.3	5	305 ²	3.0 QFN-16
GRF5508	0.8-0.9	24	29.7	4.5	33.1	45.4	5	302 ²	3.0 QFN-16
GRF5510	0.88-0.96	24	29.2	4.5	33.8	46.1	5	352 ²	3.0 QFN-16
GRF5517	1.7-1.8	22.5	27.5	5.4	32	48	5	305 ²	3.0 QFN-16
GRF5518	1.8-1.91	23	27	4.2	32	45	5	310 ²	3.0 QFN-16
GRF5519	1.92-2.0	23	26.5	4.1	32	45	5	310 ²	3.0 QFN-16
GRF5521*	2.11-2.17	23	31	3.1	33	45	5	250 ²	3.0 QFN-16
GRF5406* ³	0.66-0.72	24	28.4	4.5	33.3	46.8	5	290 ²	3.5 LFM
GRF5407* ³	0.7-0.8	24	30.5	4.5	33.4	47.3	5	305 ²	3.5 LFM
GRF5408* ³	0.8-0.9	24	29.7	4.5	33.1	45.4	5	302 ²	3.5 LFM
GRF5410* ³	0.88-0.96	24	29.2	4.5	33.8	46.1	5	352 ²	3.5 LFM
GRF5417* ³	1.7-1.8	22.5	27.5	5.4	32	48	5	305 ²	3.5 LFM
GRF5418* ³	1.8-1.91	23	27	4.2	32	45	5	310 ²	3.5 LFM
GRF5419* ³	1.92-2.0	23	26.5	4.1	32	45	5	310 ²	3.5 LFM
GRF5421* ³	2.11-2.17	23	31	3.1	33	45	5	250 ²	3.5 LFM

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Note 1: Rated P_{OUT} Yields Better Than -45dBc ACLR (LTE 20MHz 100RB TM1.1 Downlink Waveform with 9.8dB PAR).

Note 2: I_{DD} with RF power applied.

Note 3: Module with Internal Matching.

RF Switches

Part Number	Switch Type	Frequency Range (GHz)	Path	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	Package (mm)
GRF6001*	SPDT	0.1 - 10.0	RFC to RF1: RFC to RF2:	-1 -1	26 26	50 50	3.0-5.0	1.5 DFN-6
GRF6011	SPDT	0.1 - 6.0	RFC to RF1: RFC to RF2:	-0.43 -0.33	32 30.5	49.5 51	3.0-5.0	1.5 DFN-6
GRF6011W*	SPDT	0.1 - 6.0	RFC to RF1: RFC to RF2:	-0.43 -0.33	32 30.5	49.5 51	3.0-5.0	1.5 DFN-6

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

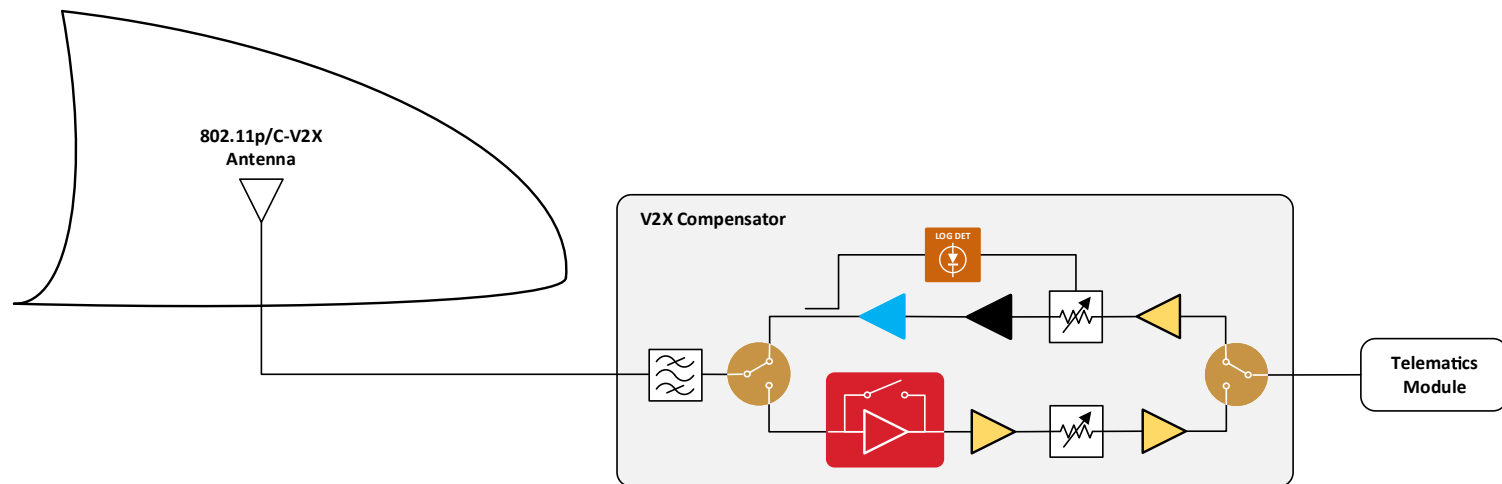
RF Power Detectors

Part Number	Frequency Range (GHz)	RF Input Power Range (dBm)	Output Voltage Range (V)	Slope (mV/dB)	Intercept (dBm)	V _{DD} Range (V)	I _{DD} (mA)	Package (mm)
GRF1201W	0.1-6.0	-20 to +20	1.1-4.3	80	-33.2	2.7-5.0	7	1.5 DFN-6

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.



V2X Compensator Solutions



LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2093W	1.0-6.0	21	0.37	19	36	2.7-5.0	30-100	1.5 DFN-6
GRF2505	4.0-6.0	12.5	1.2	19	30	1.8-5.0	20-60	1.5 DFN-6
GRF2501W	4.9-6.0	16	1	7	19	2.7-5.0	12-28	1.5 DFN-6
GRF2101W*	4.0-10.0	18	0.9	10	22	2.7-5.0	12-28	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

LNAs with Bypass

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF4142 ¹	0.1-6.0	8	1.77	19.4	35.4	1.8-5.0	15-80	1.5 DFN-6
GRF2076* ²	0.6-6.0	14.2	1.7	18.5	39.1	2.7-5.0	20-100	1.5 DFN-6
GRF2543	4.9-6.0	14.4	1	13.4	25.5	2.7-5.0	15	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Note 1: Performance with 5.7-5.9GHz tune.

Note 2: Performance with 5.5-6.0GHz tune.

High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2012W	0.05-6.0	14.8	2.7	23	40	2.7-8.0	15-100	1.5 DFN-6
GRF2505	4.0-6.0	12.5	1.2	19	30	1.8-5.0	20-60	1.5 DFN-6
GRF2013W	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

Linear Drivers

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2012W	0.05-6.0	14.8	2.7	23	40	2.7-8.0	15-100	1.5 DFN-6
GRF5511	0.7-6.0	20.1	1.5	26.1	39.6	4.5-9.0	50-200	3.0 QFN-16
GRF2505	4.0-6.0	12.5	1.2	19	30	1.8-5.0	20-60	1.5 DFN-6
GRF2013W	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

Linear Power Amplifiers

Part Number	Frequency Range (GHz)	Rated P _{OUT} ¹ (dBm)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF5511	0.7-6.0		20.1	1.5	26.1	39.6	4.5-9.0	50-200	3.0 QFN-16
GRF5558*	5.77-6.0	25.5	27	4.5	32	45	5	590 ²	3.0 QFN-16

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Note 1: Rated P_{OUT} for DSRC/802.11p operation.

Note 2: I_{DD} with RF power applied.

RF Switches

Part Number	Switch Type	Frequency Range (GHz)	Path	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	Package (mm)
GRF6001*	SPDT	0.1 - 10.0	RFC to RF1: RFC to RF2:	-1 -1	26 26	50 50	3.0-5.0	1.5 DFN-6
GRF6011	SPDT	0.1 - 6.0	RFC to RF1: RFC to RF2:	-0.43 -0.33	32 30.5	49.5 51	3.0-5.0	1.5 DFN-6
GRF6011W*	SPDT	0.1 - 6.0	RFC to RF1: RFC to RF2:	-0.43 -0.33	32 30.5	49.5 51	3.0-5.0	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

RF Power Detectors

Part Number	Frequency Range (GHz)	RF Input Power Range (dBm)	Output Voltage Range (V)	Slope (mV/dB)	Intercept (dBm)	V _{DD} Range (V)	I _{DD} (mA)	Package (mm)
GRF1201W	0.1-6.0	-20 to +20	1.1-4.3	80	-33.2	2.7-5.0	7	1.5 DFN-6

W suffix appended to the part number indicates that the device is AEC-Q100 Automotive Qualified.

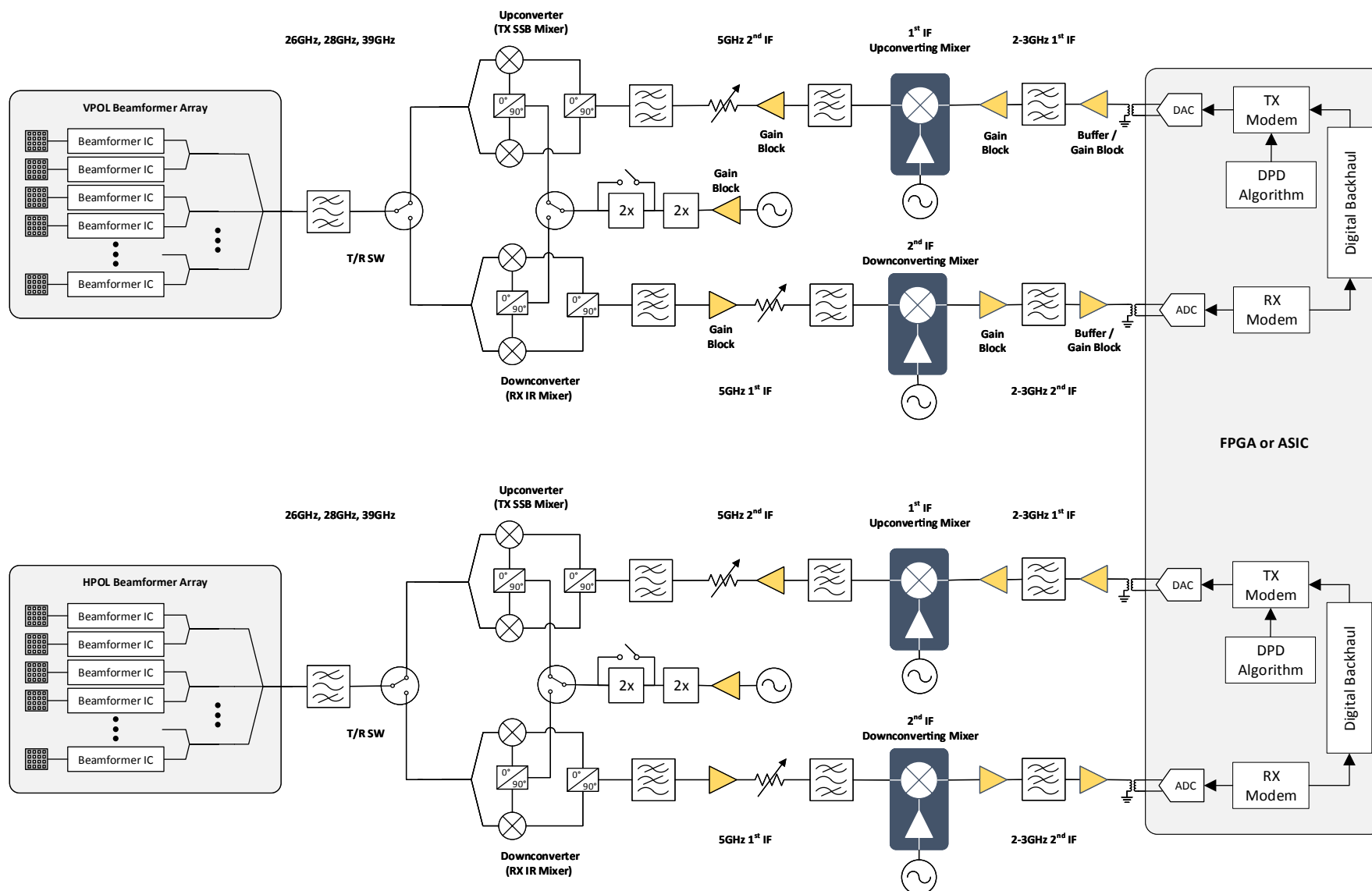


5G WIRELESS INFRASTRUCTURE SOLUTIONS





Millimeter Wave Solutions



TX First IF - High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100	1.5 DFN-6
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	1.5 DFN-6
GRF2010	0.05-5	10.5	3.1	20.5	32.5	2.7-8.0	15-100	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

TX Second IF - High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2505	4.0-6.0	12.5	1.2	19	30	1.8-5.0	20-60	1.5 DFN-6
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

LO Buffers

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2093	1.0-6.0	21	0.38	19	36	2.7-5.0	30-100	1.5 DFN-6
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

RX First IF - High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2093	1.0-6.0	21	0.38	19	36	2.7-5.0	30-100	1.5 DFN-6
GRF2505	4.0-6.0	12.5	1.2	19	30	1.8-5.0	20-60	1.5 DFN-6
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

RX Second IF - High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100	1.5 DFN-6
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	1.5 DFN-6
GRF2010	0.05-5	10.5	3.1	20.5	32.5	2.7-8.0	15-100	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

Upconverting Mixers

Part Number	Description	RF/IF (GHz)	LO (GHz)	Conv Gain (dB)	IP1dB (dBm)	IIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF7001	Linear TX/RX Mixer with Integrated LO Buffer	0.1-4.0	0.1-4.0	-6	>17.0	25	3.0-5.0	10-30	Ideal for both TX and RX Applications	1.5 DFN-6
GRF7042*	Double-Balanced TX/RX Mixer with Integrated LO Buffer	0.1-5.0	0.1-4	-7.5	> 13	23.5	3.0-5.0	18.3	Ideal for both TX and RX Applications, Increased Linearity, Better Spurious Suppression, Low LO Drive Levels	2.0 QFN-12

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Downconverting Mixers

Part Number	Description	RF/IF (GHz)	LO (GHz)	Conv Gain (dB)	IP1dB (dBm)	IIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Special Features	Package (mm)
GRF7001	Linear TX/RX Mixer with Integrated LO Buffer	0.1-4.0	0.1-4.0	-6	>17.0	25	3.0-5.0	10-30	Ideal for both TX and RX Applications	1.5 DFN-6
GRF7034*	Linear RX Mixer with Integrated LO Buffer and IF Amplifier	0.1-4.0	0.1-4.0	11.8	0	11	3	26	Ideal for RX Applications, IF Amplifier Integration	2.0 QFN-12
GRF7042*	Double-Balanced TX/RX Mixer with Integrated LO Buffer	0.1-5.0	0.1-4	-7.5	> 13	23.5	3.0-5.0	18.3	Ideal for both TX and RX Applications, Increased Linearity, Better Spurious Suppression, Low LO Drive Levels	2.0 QFN-12

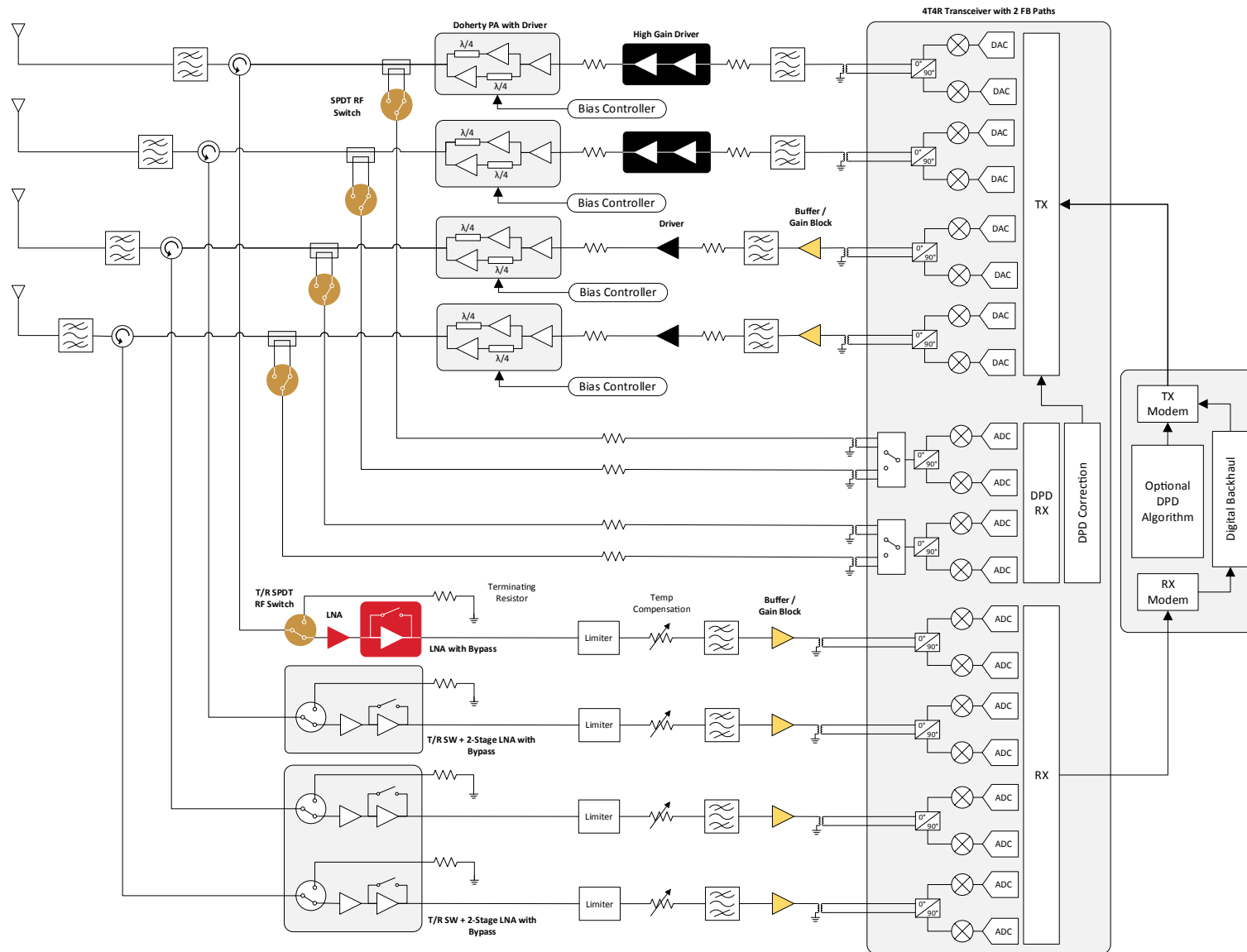
* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.



TDD mMIMO Solutions



LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2105	0.4-5.0	20.7	0.77	22.5	36	2.7-5.0	20-90	1.5 DFN-6
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2093	1.0-6.0	21	0.38	19	36	2.7-5.0	30-100	1.5 DFN-6
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8

LNAs with Bypass

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2042	0.05-6.0	15	2.3	22	39	2.7-5.0	20-100	1.5 DFN-6
GRF4142	0.1-6.0	15.3	0.9	19.3	33	1.8-5.0	15-80	1.5 DFN-6
GRF2076*	0.6-6.0	19.5	0.85	21	37.5	2.7-5.0	20-100	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100	1.5 DFN-6
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	1.5 DFN-6
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2010	0.05-5	10.5	3.1	20.5	32.5	2.7-8.0	15-100	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

Linear Drivers

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	1.5 DFN-6
GRF4005	0.1-3.8	13	0.85	27.5	43	1.8-5.0	50-200	1.5 DFN-6
GRF4004	0.1-3.8	12.7	0.85	26.5	43	1.8-5.0	30-150	1.5 DFN-6
GRF4003	0.1-3.8	13	0.85	25	41	1.8-5.0	30-120	1.5 DFN-6
GRF4002	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF5040	0.1-3.8	15	0.85	29.8	46.3	4.5-10.0	100-250	3.0 QFN-16
GRF5020	0.1-3.8	17.3	0.8	24.5	37.2	4.5-10.0	50-200	3.0 QFN-16
GRF5123*	1.8-5.0	31/35	2	25	32	3.0-5.5	85-125	3.0 QFN-16
GRF5124*	1.8-5.0	33/38	1.7	25	38	3.0-5.5	85-125	3.0 QFN-16
GRF5010	0.05-6.0	17	0.82	24.5	38.5	4.5-9.0	50-150	3.0 QFN-16
GRF4014	0.1-6.0	16.5	0.8	24	39	3.0-8.0	30-130	1.5 DFN-6
GRF5511	0.7-6.0	20.1	1.5	26.1	39.6	4.5-9.0	50-200	3.0 QFN-16

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

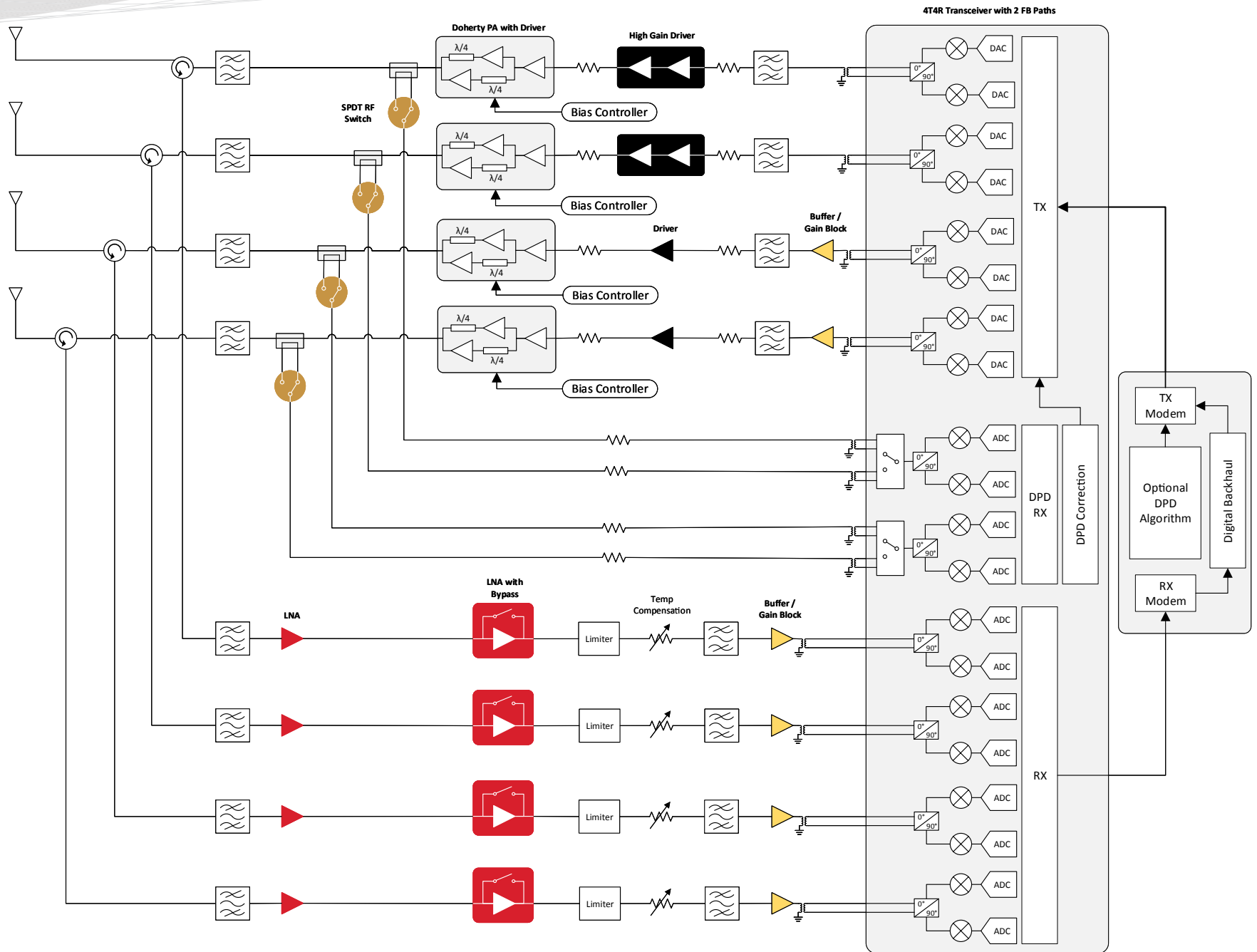
RF Switches

Part Number	Switch Type	Frequency Range (GHz)	Path	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	Package (mm)
GRF6001*	SPDT	0.1 - 10.0	RF1 to RF2:	-1	26	50	3.0-5.0	1.5 DFN-6
			RF2 to RF1:	-1	26	50		
GRF6011	SPDT	0.1 - 6.0	RF1 to RF2:	-0.43	32	49.5	3.0-5.0	1.5 DFN-6
			RF2 to RF1:	-0.33	30.5	51		

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

5G FDD mMIMO Solutions



LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2105	0.4-5.0	20.7	0.77	22.5	36	2.7-5.0	20-90	1.5 DFN-6
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2093	1.0-6.0	21	0.38	19	36	2.7-5.0	30-100	1.5 DFN-6
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8

LNAs with Bypass

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2042	0.05-6.0	15	2.3	22	39	2.7-5.0	20-100	1.5 DFN-6
GRF4142	0.1-6.0	15.3	0.9	19.3	33	1.8-5.0	15-80	1.5 DFN-6
GRF2076*	0.6-6.0	19.5	0.85	21	37.5	2.7-5.0	20-100	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100	1.5 DFN-6
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	1.5 DFN-6
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2010	0.05-5	10.5	3.1	20.5	32.5	2.7-8.0	15-100	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

Linear Drivers

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	1.5 DFN-6
GRF4005	0.1-3.8	13	0.85	27.5	43	1.8-5.0	50-200	1.5 DFN-6
GRF4004	0.1-3.8	12.7	0.85	26.5	43	1.8-5.0	30-150	1.5 DFN-6
GRF4003	0.1-3.8	13	0.85	25	41	1.8-5.0	30-120	1.5 DFN-6
GRF4002	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF5040	0.1-3.8	15	0.85	29.8	46.3	4.5-10.0	100-250	3.0 QFN-16
GRF5020	0.1-3.8	17.3	0.8	24.5	37.2	4.5-10.0	50-200	3.0 QFN-16
GRF5123*	1.8-5.0	31/35	2	25	32	3.0-5.5	85-125	3.0 QFN-16
GRF5124*	1.8-5.0	33/38	1.7	25	38	3.0-5.5	85-125	3.0 QFN-16
GRF5010	0.05-6.0	17	0.82	24.5	38.5	4.5-9.0	50-150	3.0 QFN-16
GRF4014	0.1-6.0	16.5	0.8	24	39	3.0-8.0	30-130	1.5 DFN-6
GRF5511	0.7-6.0	20.1	1.5	26.1	39.6	4.5-9.0	50-200	3.0 QFN-16

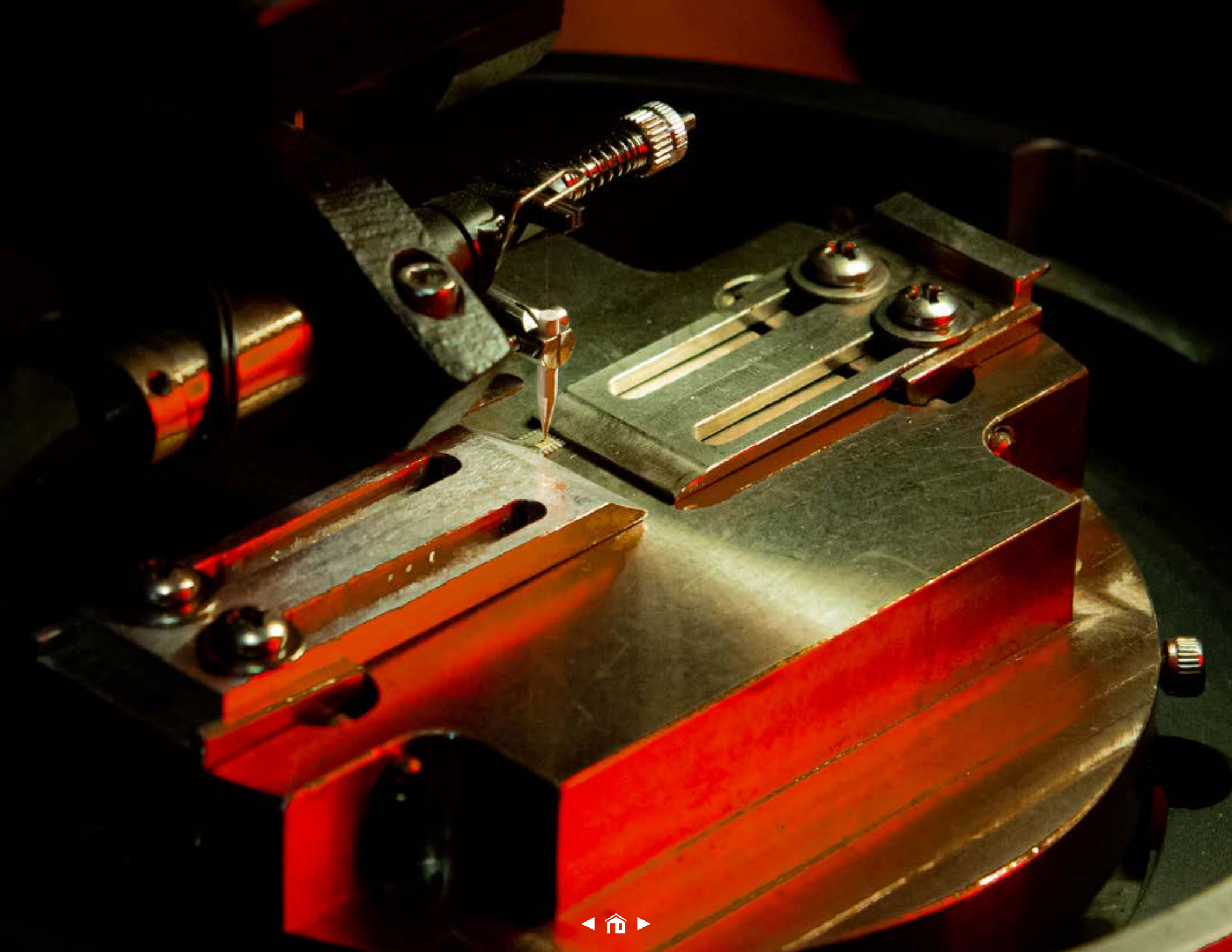
* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

RF Switches

Part Number	Switch Type	Frequency Range (GHz)	Path	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	Package (mm)
GRF6001*	SPDT	0.1 - 10.0	RFC to RF1:	-1	26	50	3.0-5.0	1.5 DFN-6
			RFC to RF2:	-1	26	50		
GRF6011	SPDT	0.1 - 6.0	RFC to RF1:	-0.43	32	49.5	3.0-5.0	1.5 DFN-6
			RFC to RF2:	-0.33	30.5	51		

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

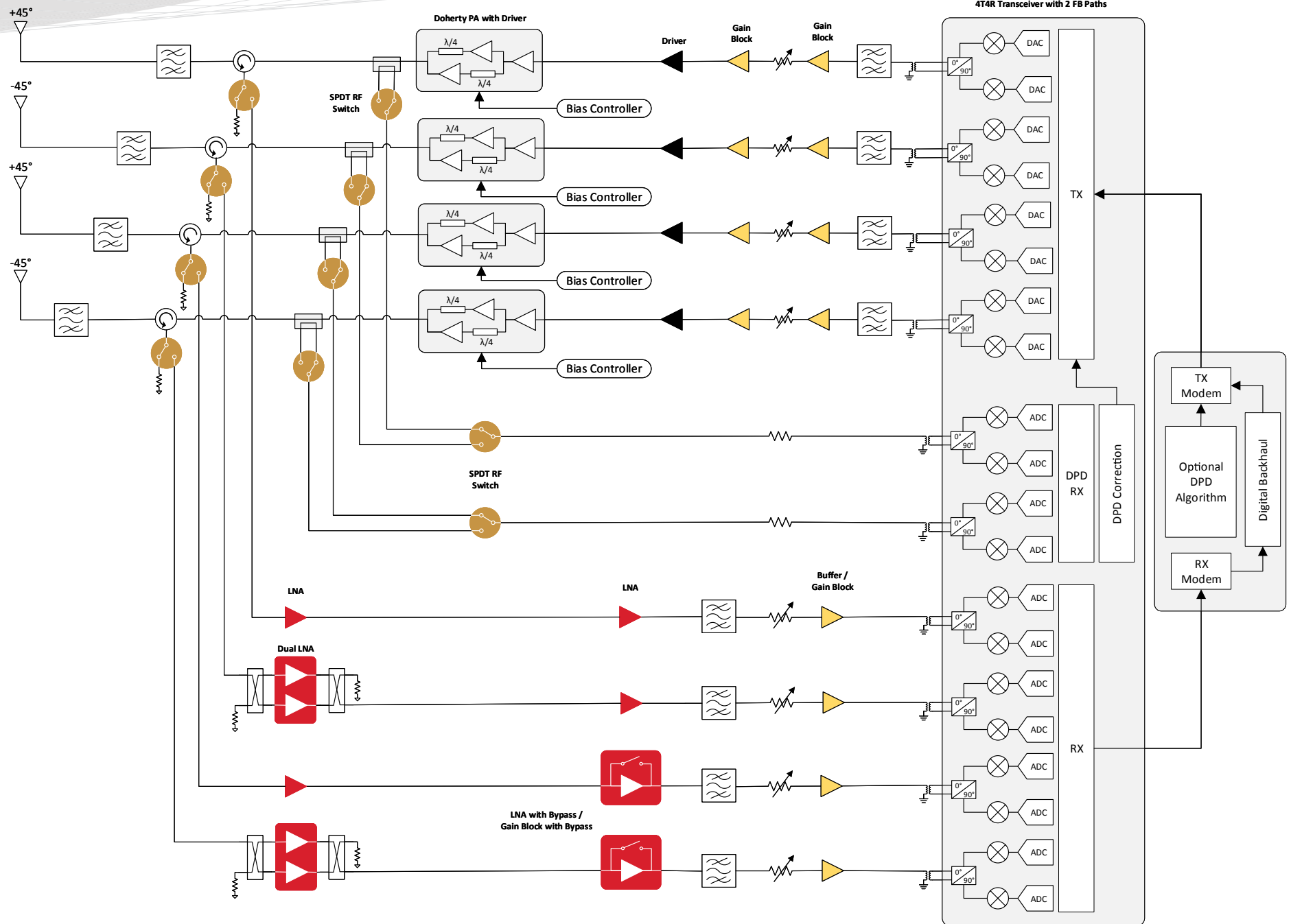


4G WIRELESS INFRASTRUCTURE SOLUTIONS





4G TDD Macrocell Solutions



LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2105	0.4-5.0	20.7	0.77	22.5	36	2.7-5.0	20-90	1.5 DFN-6
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2093	1.0-6.0	21	0.38	19	36	2.7-5.0	30-100	1.5 DFN-6
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8

Dual LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2078*	0.7-2.7	18.8	0.56	23.9	40.7	5	150	2.0 DFN-8

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

LNAs with Bypass

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2042	0.05-6.0	15	2.3	22	39	2.7-5.0	20-100	1.5 DFN-6
GRF4142	0.1-6.0	15.3	0.9	19.3	33	1.8-5.0	15-80	1.5 DFN-6
GRF2076*	0.6-6.0	19.5	0.85	21	37.5	2.7-5.0	20-100	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100	1.5 DFN-6
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	1.5 DFN-6
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2010	0.05-5	10.5	3.1	20.5	32.5	2.7-8.0	15-100	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

Linear Drivers

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	1.5 DFN-6
GRF4005	0.1-3.8	13	0.85	27.5	43	1.8-5.0	50-200	1.5 DFN-6
GRF4004	0.1-3.8	12.7	0.85	26.5	43	1.8-5.0	30-150	1.5 DFN-6
GRF4003	0.1-3.8	13	0.85	25	41	1.8-5.0	30-120	1.5 DFN-6
GRF4002	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF5040	0.1-3.8	15	0.85	29.8	46.3	4.5-10.0	100-250	3.0 QFN-16
GRF5020	0.1-3.8	17.3	0.8	24.5	37.2	4.5-10.0	50-200	3.0 QFN-16
GRF5123*	1.8-5.0	31/35	2	25	32	3.0-5.5	85-125	3.0 QFN-16
GRF5124*	1.8-5.0	33/38	1.7	25	38	3.0-5.5	85-125	3.0 QFN-16
GRF5010	0.05-6.0	17	0.82	24.5	38.5	4.5-9.0	50-150	3.0 QFN-16
GRF4014	0.1-6.0	16.5	0.8	24	39	3.0-8.0	30-130	1.5 DFN-6
GRF5511	0.7-6.0	20.1	1.5	26.1	39.6	4.5-9.0	50-200	3.0 QFN-16

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

RF Switches

Part Number	Switch Type	Frequency Range (GHz)	Path	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	Package (mm)
GRF6001*	SPDT	0.1 - 10.0	RFC to RF1:	-1	26	50	3.0-5.0	1.5 DFN-6
			RFC to RF2:	-1	26	50		
GRF6011	SPDT	0.1 - 6.0	RFC to RF1:	-0.43	32	49.5	3.0-5.0	1.5 DFN-6
			RFC to RF2:	-0.33	30.5	51		

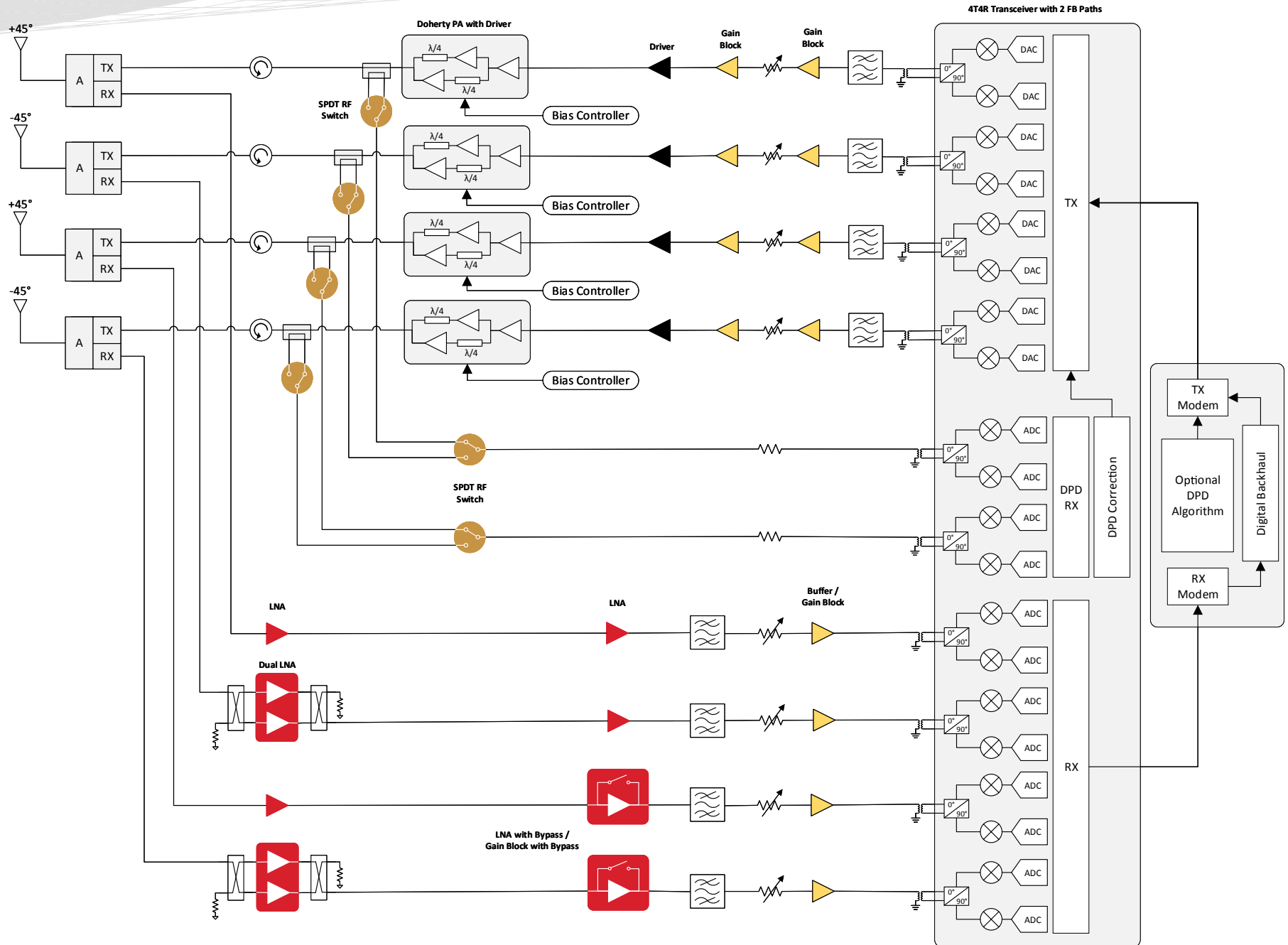
* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.



4G FDD Macrocell Solutions



LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2105	0.4-5.0	20.7	0.77	22.5	36	2.7-5.0	20-90	1.5 DFN-6
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2093	1.0-6.0	21	0.38	19	36	2.7-5.0	30-100	1.5 DFN-6
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8

Dual LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2078*	0.7-2.7	18.8	0.56	23.9	40.7	5	150	2.0 DFN-8

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

LNAs with Bypass

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2042	0.05-6.0	15	2.3	22	39	2.7-5.0	20-100	1.5 DFN-6
GRF4142	0.1-6.0	15.3	0.9	19.3	33	1.8-5.0	15-80	1.5 DFN-6
GRF2076*	0.6-6.0	19.5	0.85	21	37.5	2.7-5.0	20-100	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100	1.5 DFN-6
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	1.5 DFN-6
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2010	0.05-5	10.5	3.1	20.5	32.5	2.7-8.0	15-100	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

Linear Drivers

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2014	0.05-3.8	15.9	3.3	24	43.5	2.7-8.0	50-180	1.5 DFN-6
GRF4005	0.1-3.8	13	0.85	27.5	43	1.8-5.0	50-200	1.5 DFN-6
GRF4004	0.1-3.8	12.7	0.85	26.5	43	1.8-5.0	30-150	1.5 DFN-6
GRF4003	0.1-3.8	13	0.85	25	41	1.8-5.0	30-120	1.5 DFN-6
GRF4002	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF5040	0.1-3.8	15	0.85	29.8	46.3	4.5-10.0	100-250	3.0 QFN-16
GRF5020	0.1-3.8	17.3	0.8	24.5	37.2	4.5-10.0	50-200	3.0 QFN-16
GRF5123*	1.8-5.0	31/35	2	25	32	3.0-5.5	85-125	3.0 QFN-16
GRF5124*	1.8-5.0	33/38	1.7	25	38	3.0-5.5	85-125	3.0 QFN-16
GRF5010	0.05-6.0	17	0.82	24.5	38.5	4.5-9.0	50-150	3.0 QFN-16
GRF4014	0.1-6.0	16.5	0.8	24	39	3.0-8.0	30-130	1.5 DFN-6
GRF5511	0.7-6.0	20.1	1.5	26.1	39.6	4.5-9.0	50-200	3.0 QFN-16

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

RF Switches

Part Number	Switch Type	Frequency Range (GHz)	Path	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	Package (mm)
GRF6001*	SPDT	0.1 - 10.0	RFC to RF1:	-1	26	50	3.0-5.0	1.5 DFN-6
			RFC to RF2:	-1	26	50		
GRF6011	SPDT	0.1 - 6.0	RFC to RF1:	-0.43	32	49.5	3.0-5.0	1.5 DFN-6
			RFC to RF2:	-0.33	30.5	51		

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

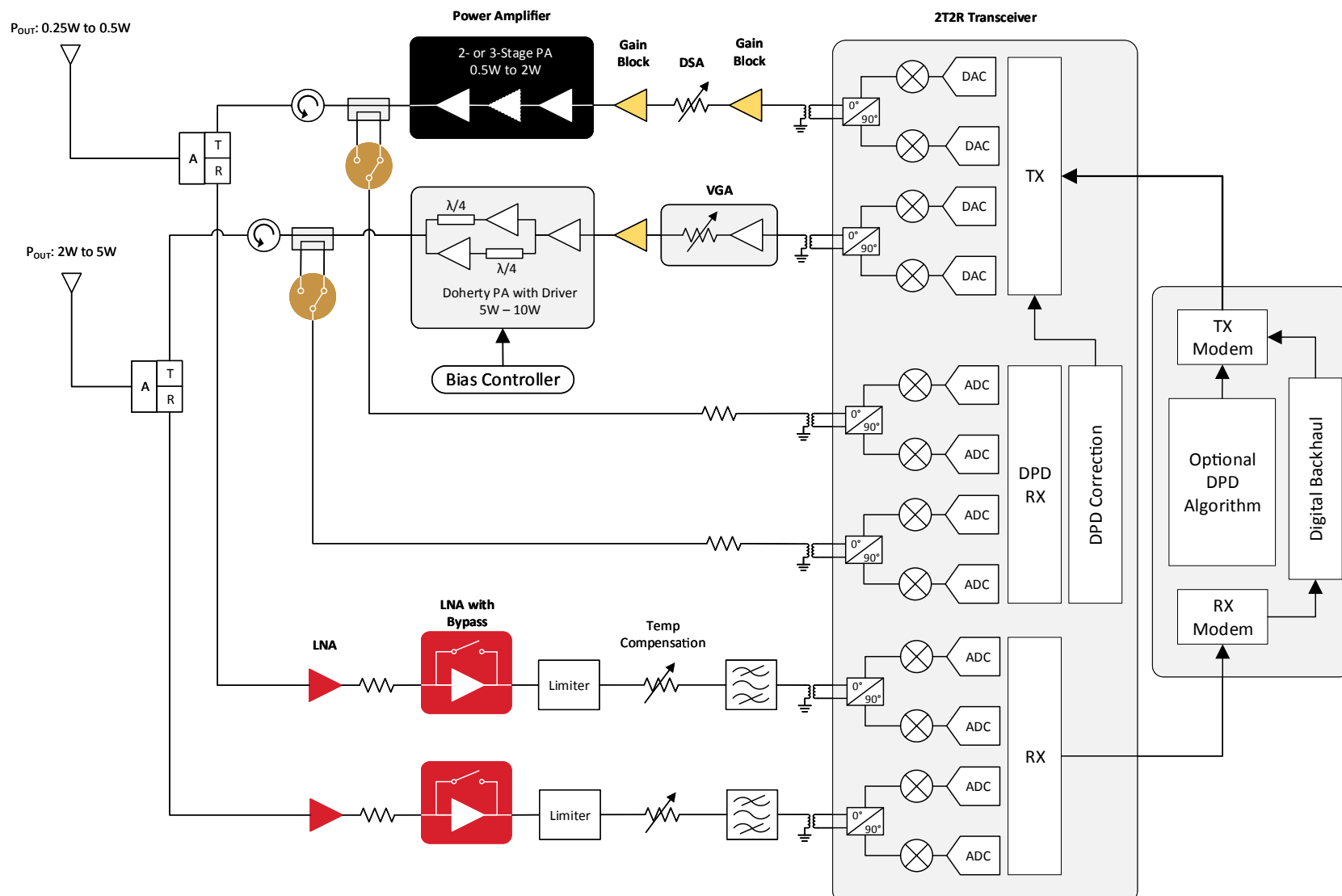


SMALL CELL SOLUTIONS





Small Cell Solutions



LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2070	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2080	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2071	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	2.0 DFN-8
GRF2081	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	2.0 DFN-8
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2093	1.0-6.0	21	0.38	19	36	2.7-5.0	30-100	1.5 DFN-6
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8

LNAs with Bypass

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2042	0.05-6.0	15	2.3	22	39	2.7-5.0	20-100	1.5 DFN-6
GRF4142	0.1-6.0	15.3	0.9	19.3	33	1.8-5.0	15-80	1.5 DFN-6
GRF2076*	0.6-6.0	19.5	0.85	21	37.5	2.7-5.0	20-100	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2070	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2080	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2071	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	2.0 DFN-8
GRF2081	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	2.0 DFN-8
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100	1.5 DFN-6
GRF4005	0.1-3.8	13	0.85	27.5	43	1.8-5.0	50-200	1.5 DFN-6
GRF4004	0.1-3.8	12.7	0.85	26.5	43	1.8-5.0	30-150	1.5 DFN-6
GRF4003	0.1-3.8	13	0.85	25	41	1.8-5.0	30-120	1.5 DFN-6
GRF4002	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2010	0.05-5.0	10.5	3.1	20.5	32.5	2.7-8.0	15-100	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

Linear Power Amplifiers (Discretes & Modules)

Part Number	Frequency Range (GHz)	Rated P _{OUT} ¹ (dBm)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} (V)	I _{DD} (mA)	Package (mm)
GRF5506	0.66-0.72	24	28.4	4.5	33.3	46.8	5	290 ²	3.0 QFN-16
GRF5507	0.7-0.8	24	30.5	4.5	33.4	47.3	5	305 ²	3.0 QFN-16
GRF5508	0.8-0.9	24	29.7	4.5	33.1	45.4	5	302 ²	3.0 QFN-16
GRF5510	0.88-0.96	24	29.2	4.5	33.8	46.1	5	352 ²	3.0 QFN-16
GRF5517	1.7-1.8	22.5	27.5	5.4	32	48	5	305 ²	3.0 QFN-16
GRF5518	1.8-1.91	23	27	4.2	32	45	5	310 ²	3.0 QFN-16
GRF5519	1.92-2.0	23	26.5	4.1	32	45	5	310 ²	3.0 QFN-16
GRF5521*	2.11-2.17	23	31	3.1	33	45	5	250 ²	3.0 QFN-16
GRF5406* ³	0.66-0.72	24	28.4	4.5	33.3	46.8	5	290 ²	3.5 LFM
GRF5407* ³	0.7-0.8	24	30.5	4.5	33.4	47.3	5	305 ²	3.5 LFM
GRF5408* ³	0.8-0.9	24	29.7	4.5	33.1	45.4	5	302 ²	3.5 LFM
GRF5410* ³	0.88-0.96	24	29.2	4.5	33.8	46.1	5	352 ²	3.5 LFM
GRF5417* ³	1.7-1.8	22.5	27.5	5.4	32	48	5	305 ²	3.5 LFM
GRF5418* ³	1.8-1.91	23	27	4.2	32	45	5	310 ²	3.5 LFM
GRF5419* ³	1.92-2.0	23	26.5	4.1	32	45	5	310 ²	3.5 LFM
GRF5421* ³	2.11-2.17	23	31	3.1	33	45	5	250 ²	3.5 LFM

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Note 1: Rated P_{OUT} Yields Better Than -45dBc ACLR (LTE 20MHz 100RB TM1.1 Downlink Waveform with 9.8dB PAR).

Note 2: I_{DD} with RF power applied.

Note 3: Module with Internal Matching.

RF Switches

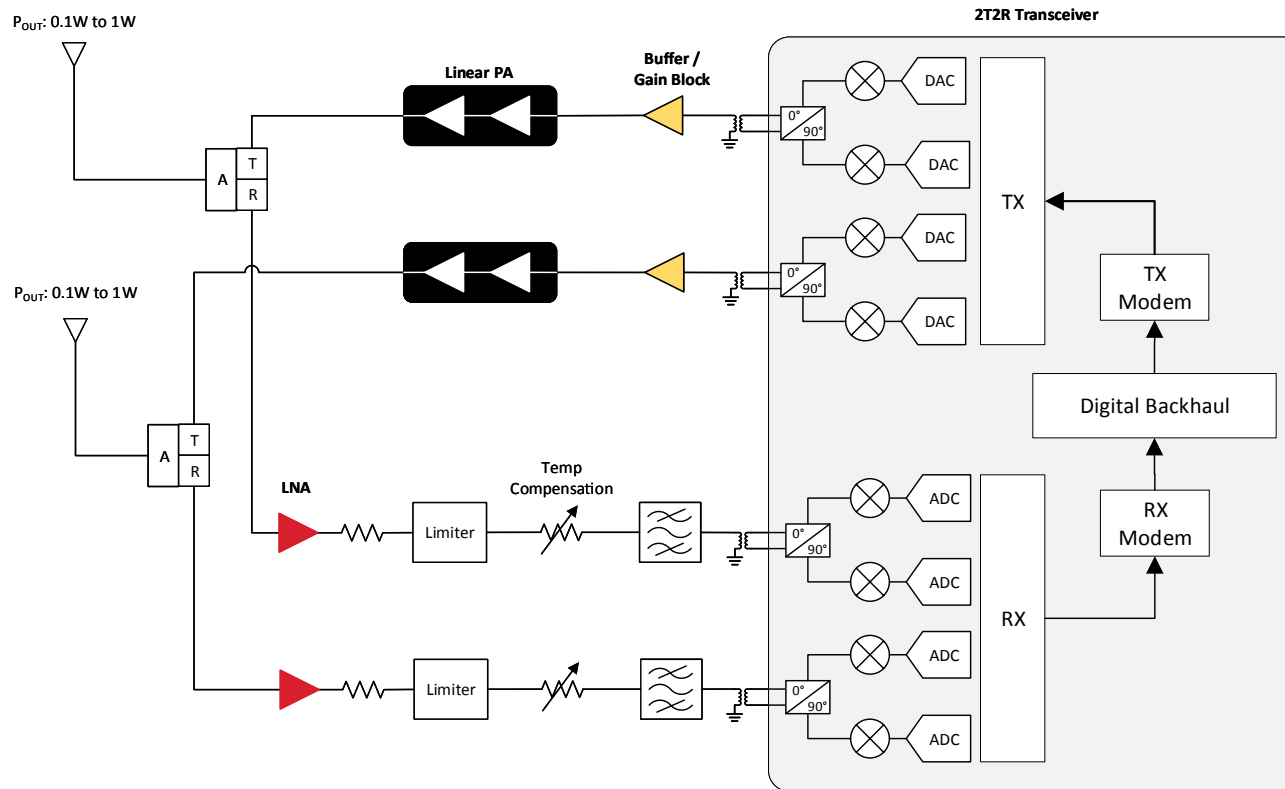
Part Number	Switch Type	Frequency Range (GHz)	Path	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	Package (mm)
GRF6001*	SPDT	0.1 - 10.0	RFC to RF1: RFC to RF2:	-1 -1	26 26	50 50	3.0-5.0	1.5 DFN-6
GRF6011	SPDT	0.1 - 6.0	RFC to RF1: RFC to RF2:	-0.43 -0.33	32 30.5	49.5 51	3.0-5.0	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

Picocell/Femtocell Solutions



LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2070	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2080	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2071	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	2.0 DFN-8
GRF2081	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	2.0 DFN-8
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2074	1.0-6.0	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2093	1.0-6.0	21	0.38	19	36	2.7-5.0	30-100	1.5 DFN-6
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8

High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2070	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2080	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2071	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	2.0 DFN-8
GRF2081	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	2.0 DFN-8
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100	1.5 DFN-6
GRF4005	0.1-3.8	13	0.85	27.5	43	1.8-5.0	50-200	1.5 DFN-6
GRF4004	0.1-3.8	12.7	0.85	26.5	43	1.8-5.0	30-150	1.5 DFN-6
GRF4003	0.1-3.8	13	0.85	25	41	1.8-5.0	30-120	1.5 DFN-6
GRF4002	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF2072	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2082	1.5-3.8	19.8	0.55	20	37.5	2.7-5.0	20-100	2.0 DFN-8
GRF2010	0.05-5.0	10.5	3.1	20.5	32.5	2.7-8.0	15-100	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2083	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

Linear Power Amplifiers (Discretes & Modules)

Part Number	Frequency Range (GHz)	Rated P _{OUT} ¹ (dBm)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} (V)	I _{DD} (mA)	Package (mm)
GRF5506	0.66-0.72	24	28.4	4.5	33.3	46.8	5	290 ²	3.0 QFN-16
GRF5507	0.7-0.8	24	30.5	4.5	33.4	47.3	5	305 ²	3.0 QFN-16
GRF5508	0.8-0.9	24	29.7	4.5	33.1	45.4	5	302 ²	3.0 QFN-16
GRF5510	0.88-0.96	24	29.2	4.5	33.8	46.1	5	352 ²	3.0 QFN-16
GRF5517	1.7-1.8	22.5	27.5	5.4	32	48	5	305 ²	3.0 QFN-16
GRF5518	1.8-1.91	23	27	4.2	32	45	5	310 ²	3.0 QFN-16
GRF5519	1.92-2.0	23	26.5	4.1	32	45	5	310 ²	3.0 QFN-16
GRF5521*	2.11-2.17	23	31	3.1	33	45	5	250 ²	3.0 QFN-16
GRF5406* ³	0.66-0.72	24	28.4	4.5	33.3	46.8	5	290 ²	3.5 LFM
GRF5407* ³	0.7-0.8	24	30.5	4.5	33.4	47.3	5	305 ²	3.5 LFM
GRF5408* ³	0.8-0.9	24	29.7	4.5	33.1	45.4	5	302 ²	3.5 LFM
GRF5410* ³	0.88-0.96	24	29.2	4.5	33.8	46.1	5	352 ²	3.5 LFM
GRF5417* ³	1.7-1.8	22.5	27.5	5.4	32	48	5	305 ²	3.5 LFM
GRF5418* ³	1.8-1.91	23	27	4.2	32	45	5	310 ²	3.5 LFM
GRF5419* ³	1.92-2.0	23	26.5	4.1	32	45	5	310 ²	3.5 LFM
GRF5421* ³	2.11-2.17	23	31	3.1	33	45	5	250 ²	3.5 LFM

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Note 1: Rated P_{OUT} Yields Better Than -45dBc ACLR (LTE 20MHz 100RB TM1.1 Downlink Waveform with 9.8dB PAR).

Note 2: I_{DD} with RF power applied.

Note 3: Module with Internal Matching.



Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

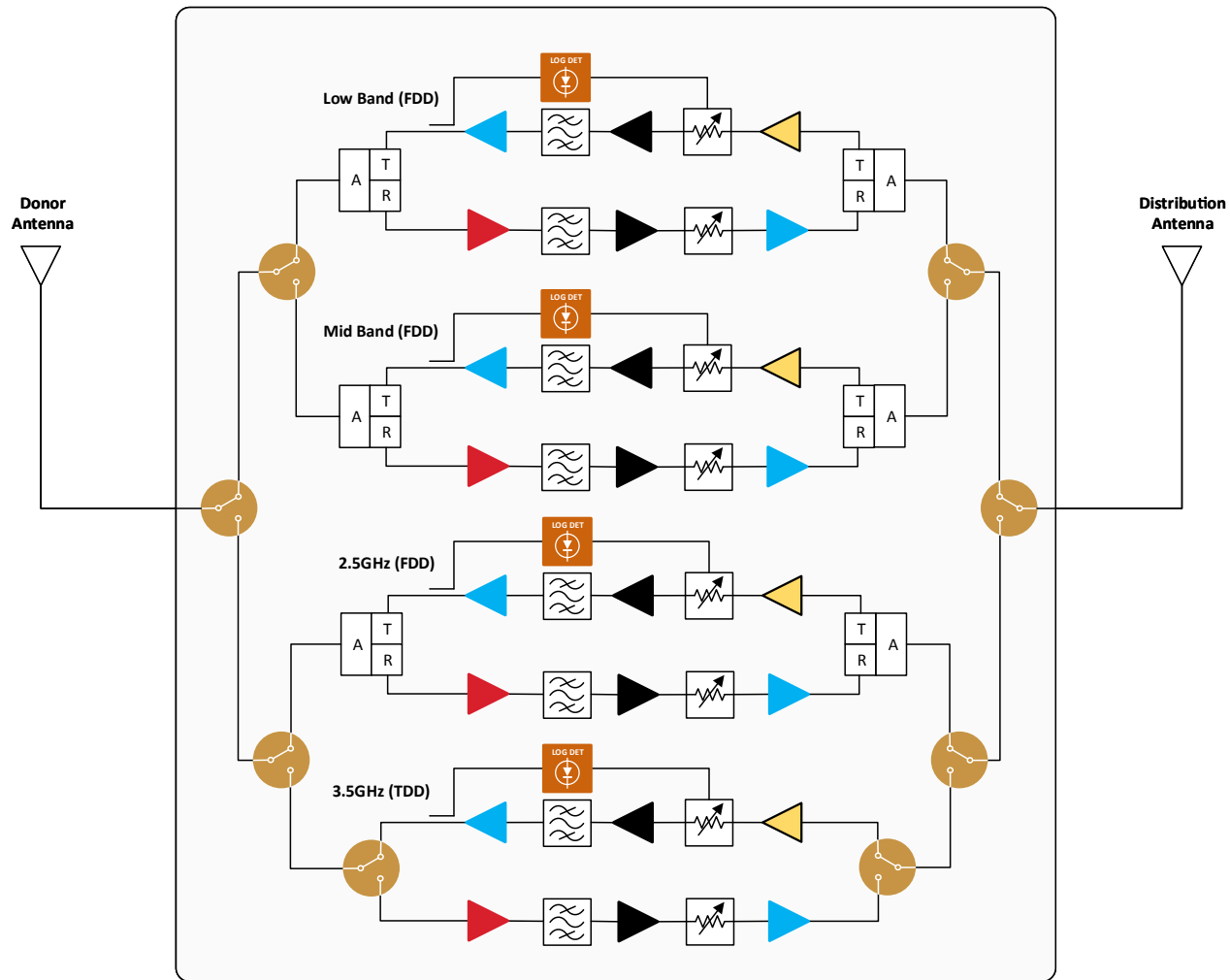


CELLULAR REPEATERS/BOOSTERS/DAS SOLUTIONS





Multi-Band Cellular Repeater/Booster/DAS Solutions



LNAs

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2070	0.1-1.5	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2071	0.7-2.7	19	0.35	21	38	2.7-5.0	20-100	2.0 DFN-8
GRF4002	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF2100	0.1-3.8	16.5	0.8	10	19	1.8-5.0	6-30	1.5 DFN-6
GRF2108*	0.1-3.8	17	0.9	17.5	19	1.8-5.0	4-20	1.5 DFN-6
GRF2106	0.1-4.2	20.5	0.8	12	26	2.7-5.0	8-30	1.5 DFN-6
GRF2105	0.4-5.0	20.7	0.77	22.5	36	2.7-5.0	20-90	1.5 DFN-6
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF2073	2.0-6.0	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

High Linearity Gain Blocks

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2011	0.05-3.8	15.2	2	22.7	40	2.7-8.0	15-100	1.5 DFN-6
GRF2100	0.1-3.8	16.5	0.8	10	19	1.8-5.0	6-30	1.5 DFN-6
GRF2373	0.1-3.8	18.5	1.2	12.5	25	2.7-5.0	10-25	1.5 DFN-6
GRF4002	0.1-3.8	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

Linear Drivers

Part Number	Frequency Range (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	I _{DD} Range (mA)	Package (mm)
GRF2012	0.05-6.0	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF5511	0.7-6.0	20.1	1.5	26.1	39.6	4.5-9.0	50-200	3.0 QFN-16
GRF2505	4.0-6.0	12.5	1.2	19	30	1.8-5.0	20-60	1.5 DFN-6
GRF2013	0.05-8.0	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

Most devices include detailed performance curves taken over the rated frequency of operation. To access these parametric charts, visit the respective product page at guerrilla-rf.com.

Linear Power Amplifiers (Discretes & Modules)

Part Number	Frequency Range (GHz)	Rated P _{OUT} ¹ (dBm)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} (V)	I _{DD} (mA)	Package (mm)
GRF5506	0.66-0.72	24	28.4	4.5	33.3	46.8	5	290 ²	3.0 QFN-16
GRF5507	0.7-0.8	24	30.5	4.5	33.4	47.3	5	305 ²	3.0 QFN-16
GRF5508	0.8-0.9	24	29.7	4.5	33.1	45.4	5	302 ²	3.0 QFN-16
GRF5510	0.88-0.96	24	29.2	4.5	33.8	46.1	5	352 ²	3.0 QFN-16
GRF5517	1.7-1.8	22.5	27.5	5.4	32	48	5	305 ²	3.0 QFN-16
GRF5518	1.8-1.91	23	27	4.2	32	45	5	310 ²	3.0 QFN-16
GRF5519	1.92-2.0	23	26.5	4.1	32	45	5	310 ²	3.0 QFN-16
GRF5521*	2.11-2.17	23	31	3.1	33	45	5	250 ²	3.0 QFN-16
GRF5406* ³	0.66-0.72	24	28.4	4.5	33.3	46.8	5	290 ²	3.5 LFM
GRF5407* ³	0.7-0.8	24	30.5	4.5	33.4	47.3	5	305 ²	3.5 LFM
GRF5408* ³	0.8-0.9	24	29.7	4.5	33.1	45.4	5	302 ²	3.5 LFM
GRF5410* ³	0.88-0.96	24	29.2	4.5	33.8	46.1	5	352 ²	3.5 LFM
GRF5417* ³	1.7-1.8	22.5	27.5	5.4	32	48	5	305 ²	3.5 LFM
GRF5418* ³	1.8-1.91	23	27	4.2	32	45	5	310 ²	3.5 LFM
GRF5419* ³	1.92-2.0	23	26.5	4.1	32	45	5	310 ²	3.5 LFM
GRF5421* ³	2.11-2.17	23	31	3.1	33	45	5	250 ²	3.5 LFM

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

Note 1: Rated P_{OUT} Yields Better Than -45dBc ACLR (LTE 20MHz 100RB TM1.1 Downlink Waveform with 9.8dB PAR).

Note 2: I_{DD} with RF power applied.

Note 3: Module with Internal Matching.

RF Switches

Part Number	Switch Type	Frequency Range (GHz)	Path	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{DD} Range (V)	Package (mm)
GRF6001*	SPDT	0.1 - 10.0	RFC to RF1: RFC to RF2:	-1 -1	26 26	50 50	3.0-5.0	1.5 DFN-6
GRF6011	SPDT	0.1 - 6.0	RFC to RF1: RFC to RF2:	-0.43 -0.33	32 30.5	49.5 51	3.0-5.0	1.5 DFN-6

* Product is in Pre-Production. Contact sales@guerrilla-rf.com for minimum order quantity.

RF Power Detectors

Part Number	Frequency Range (GHz)	RF Input Power Range (dBm)	Output Voltage (V)	Slope (mV/dB)	Intercept (dBm)	V _{DD} Range (V)	I _{DD} (mA)	Package (mm)
GRF1201	0.1-6.0	-20 to +20	1.1-4.3	80	-33.2	2.7-5.0	7	1.5 DFN-6

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