



GUERRILLARF[®]

Aerospace and Defense Tactical Radio



OWN THE LINK. OWN THE BATTLEFIELD.™

High-performance RFICs for Tactical Radio



WHEN THE MISSION DEPENDS ON COMMS, COMMS DEPEND ON GRF.

Guerilla RF provides 60+ high-performance RFIC solutions engineered to provide the ultimate communications link – enabling incredibly resilient, high-sensitivity receivers coupled with efficient, high-power transmit paths that protect link margin and preserve mission-critical connectivity.



TABLE OF CONTENTS

TACTICAL RADIO

Receiver Lineups	4
Transmitter Lineups	4
Tactical Radio Block Diagram	5

PARAMETRIC TABLES

LNAs	6
LNAs with Bypass	6
Gain Blocks	8
Gain Blocks with Bypass	8
Drivers & Pre-Drivers	10
Power Amplifiers	12
DSAs/DVGAs	14
RF Power Detectors	14
RF Switches	14

Tactical radios, SatCom, Radar, EW, UAS and C-UAS systems demand RF components that perform under pressure. Guerilla RF delivers LNAs, PAs, DSAs, Gain Blocks, RF Switches and GaN power solutions purpose-built for Aerospace & Defense.



2000 Pisgah Church Road,
Greensboro, North Carolina 27455 United States
336.510.7840

guerrilla-rf.com
sales@guerrilla-rf.com
applications@guerrilla-rf.com

Tactical Radio Lineups

RECEIVER LINEUPS

Band	RF Switch	LNA	LNA with BYP	2nd Stage LNA	DSA / DVGA	RF Power Det
VHF + Lower UHF (30-512MHz)	GRF6001 GRF6011 GRF6018	GRF2070 GRF2080 GRF2100 GRF2105 GRF2108 GRF2133	GRF2140 GRF2374	GRF2013 GRF2105 GRF2108 GRF4002 GRF4012 GRF4014	GRF6402 GRF6403 GRF6411 GRF6412	GRF1201 GRF1202
Upper UHF + L-Band + S-Band (0.5-2.7GHz)		GRF2100 GRF2105 GRF2108 GRF2133	GRF2140 GRF2374 GRF2243 GRF2076 GRF4142 GRF2040 GRF2042 GRF2043			
Mid C-Band (4.4 - 5.2GHz)		GRF2073 GRF2074 GRF2093 GRF2105	GRF2076 GRF2583			
Upper C-Band (5 - 6GHz)		GRF2073 GRF2074 GRF2093 GRF2110	GRF2541 GRF2543 GRF2583 GRF2076			

TRANSMITTER LINEUPS

Band	Typical POUT (W)	Gain Block	DSA / DVGA	RF Power Det	Driver	Final
UHF (225-450MHz)	1 - 2W	GRF2010 GRF2012 GRF2013 GRF2105 GRF2108 GRF2133 GRF4002 GRF4003 GRF4004	GRF6402 GRF6403 GRF6411 GRF6412	GRF1201 GRF1202	GRF4002 GRF4003 GRF4004 GRF4005 GRF5020 GRF5040 GRF5112	GRF4005 GRF5109 GRF5112 GRF5504 GRF5604
	2 - 5W				GRF0005 GRF0010 GRF0012 GRF0020	
	5 - 20W				GRF4005 GRF5109 GRF5112 GRF5504 GRF5604	GRF0010 GRF0012 GRF0020 GRF0030 GRF5923 GRF0065
Upper UHF + L-Band + S-Band (0.5-2.7GHz)	1 - 2W	GRF2010 GRF2012 GRF2013 GRF2105 GRF2108 GRF2133 GRF4002 GRF4003 GRF4004 GRF9460	GRF6402 GRF6403 GRF6411 GRF6412	GRF1201 GRF1202	GRF4002 GRF4003 GRF4004 GRF4005 GRF5010 GRF5020 GRF5040 GRF5511	GRF5511 GRF0005 GRF0005 GRF0010 GRF0012 GRF0020
	2 - 5W				GRF0005 GRF0010 GRF0012 GRF0020 GRF5923 GRF0065	
	5 - 20W				GRF2013 GRF2115 GRF5511 GRF5847	GRF5847 GRF0005 GRF0010
Mid C-Band (4.4 - 5.2GHz)	1 - 2W	GRF2010 GRF2012 GRF2013 GRF2105 GRF2110 GRF2115	GRF6402 GRF6403 GRF6411 GRF6412	GRF1201 GRF1202	GRF5847	GRF0010 GRF0012 GRF0020 GRF0030 GRF5923
	2 - 5W				GRF5847 GRF0005	GRF0010 GRF0012 GRF0020 GRF0030 GRF5923
	5 - 20W				GRF2013 GRF2115 GRF5511 GRF5857	GRF5857 GRF0005 GRF0010
Upper C-Band (5 - 6GHz)	1 - 2W	GRF2010 GRF2012 GRF2013 GRF2105 GRF2110 GRF2115	GRF6402 GRF6403 GRF6411 GRF6412	GRF1201 GRF1202	GRF5857	GRF0010 GRF0012 GRF0020
	2 - 5W				GRF5857 GRF0005	GRF0010 GRF0012 GRF0020 GRF0030 GRF5923
	5 - 20W				GRF5857 GRF0005	GRF0010 GRF0012 GRF0020 GRF0030 GRF5923

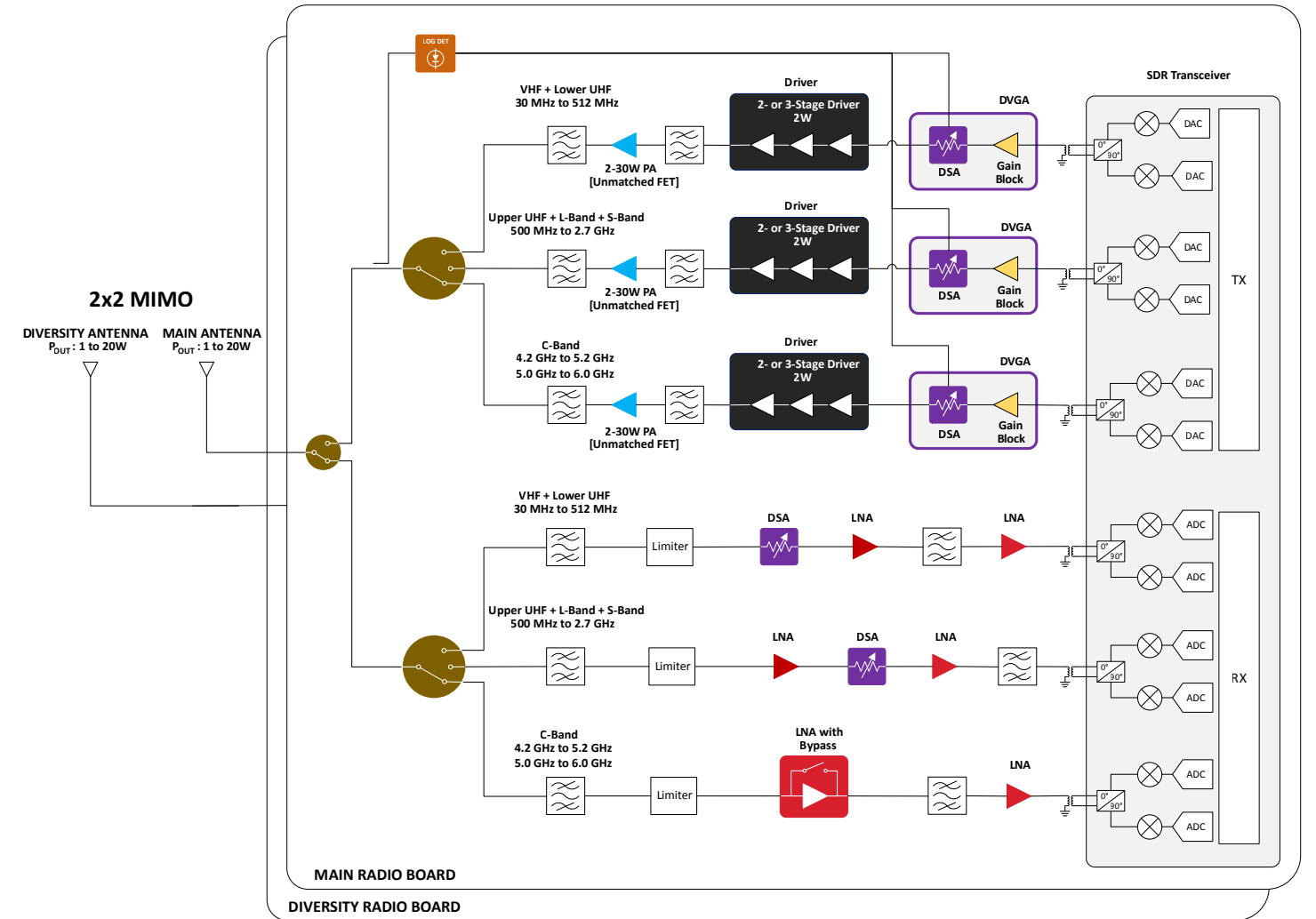
CLICK TO RETURN TO TABLE OF CONTENTS



CLICK TO RETURN TO TABLE OF CONTENTS



CLICK TO RETURN TO TABLE OF CONTENTS



PARAMETRIC TABLES

LNAS

	Band			
	VHF + Lower UHF (30-512MHz)	Upper UHF + L-Band + S-Band (0.5-2.7GHz)	Mid C-Band (4.4 - 5.2GHz)	Upper C-Band (5-6GHz)
GRF2070	•			
GRF2080	•			
GRF2108	•	•	•	•
GRF2133	•	•		
GRF2100	•	•		
GRF2105	•	•	•	•
GRF4002	•	•	•	•
GRF4014	•	•	•	•
GRF2074			•	•
GRF2093			•	•
GRF2073			•	•
GRF4012	•	•	•	•
GRF2110				•
GRF2013	•	•	•	•

LNAS with BYPASS

	Band			
	VHF + Lower UHF (30-512MHz)	Upper UHF + L-Band + S-Band (0.5-2.7GHz)	Mid C-Band (4.4 - 5.2GHz)	Upper C-Band (5-6GHz)
GRF2374	•	•		
GRF2140	•	•		
GRF2040		•		
GRF2243		•		
GRF4142		•		
GRF2042		•		
GRF2043		•		
GRF2583			•	•
GRF2541				•
GRF2076		•	•	•
GRF2543				•

CLICK TO RETURN TO TABLE OF CONTENTS



CLICK TO RETURN TO TABLE OF CONTENTS



CLICK TO RETURN TO TABLE OF CONTENTS

	Rated Operating Freq (GHz)	Test Freq (GHz)	G (dB)	EVB NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Supply (V)	Current (mA)	Pkg
GRF2070	0.01-1.7	0.9	21	0.4	20	39	2.7-5.0	20-100	2.0 DFN-8
GRF2080	0.01-2.2	0.9	20.8	0.35	20	39.5	2.7-5.0	20-100	2.0 DFN-8
GRF2108	0.1-3.8	0.9	17	0.9	17.5	19	1.8-5.0	4-20	1.5 DFN-6
GRF2133	0.1-4.2	1.95	28	0.6	20	30	1.8-5.0	35-120	1.5 DFN-6
GRF2100	0.08-5.3	2.5	16.5	0.8	10	19	1.8-5.0	6-30	1.5 DFN-6
GRF2105	0.15-5.36	2.5	20.7	0.77	22.5	36	2.7-5.0	20-90	1.5 DFN-6
GRF4002	0.015-5.9	2.5	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF4014	0.01-6	2.5	16.5	0.8	24	39	3.0-8.0	30-130	1.5 DFN-6
GRF2074	1-6	2.3	20.5	0.35	17.5	35.5	2.7-5.0	20-100	2.0 DFN-8
GRF2093	1-6	2.3	21	0.37	19	35.5	2.7-5.0	30-100	1.5 DFN-6
GRF2073	1-6.8	3.6	18.6	0.65	18	35	2.7-5.0	20-100	2.0 DFN-8
GRF4012	0.03-7.12	2.3	17.8	0.9	22.5	33	1.8-5.0	20-80	1.5 DFN-6
GRF2110	5.0-8.0	6	16.3	1.2	22	38	2.7-5.0	20-100	1.5 DFN-6
GRF2013	0.01-9	1.9	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6

	Rated Operating Freq (GHz)	Test Freq (GHz)	G (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Supply (V)	Current (mA)	Pkg
GRF2374	0.1-3.8	2.4	14.3	1.4	11	23.5	2.7-5.5	10-25	1.5 DFN-6
GRF2140	0.085-4.2	1.95	17.8	1.1	9.3	20	2.7-5.0	6-30	1.5 DFN-6
GRF2040	0.05-5	2	10.2	3.1	20	36	2.7-8.0	15-90	1.5 DFN-6
GRF2243	0.4-5	2.5	19.7	0.75	14	23	2.7-5.0	8-25	1.5 DFN-6
GRF4142	0.03-6	1.9	15.3	0.9	19.3	33	1.8-5.0	15-80	1.5 DFN-6
GRF2042	0.15-6	1.7	15.5	2.1	22	38	2.7-6.0	20-100	1.5 DFN-6
GRF2043	0.15-6	1.9	18.5	1.8	22	36	2.7-6.0	20-100	1.5 DFN-6
GRF2583	4.4-6	5.9	27.2	1.2	16	33	2.7-6.0	52	1.5 DFN-6
GRF2541	4.9-6	5.5	16.4	1	7	19	2.7-5.0	12-28	1.5 DFN-6
GRF2076	0.6-7.125	3.6	17.2	1.1	22	38	2.7-6.0	20-100	1.5 DFN-6
GRF2543	3.75-8.5	5.5	14.5	1	11.5		2.7-5.0	15	1.5 DFN-6

PARAMETRIC TABLES

GAIN BLOCKS

	Band			
	VHF + Lower UHF (30-512MHz)	Upper UHF + L-Band + S-Band (0.5-2.7GHz)	Mid C-Band (4.4 - 5.2GHz)	Upper C-Band (5-6GHz)
GRF9460		•		
GRF4003	•	•		
GRF4004	•	•		
GRF2108	•	•		
GRF2133	•	•		
GRF2010	•	•	•	•
GRF2105	•	•	•	•
GRF4002	•	•		
GRF2012	•	•	•	•
GRF2110			•	•
GRF2013	•	•	•	•
GRF2115			•	•

GAIN BLOCKS WITH BYPASS

	Band			
	VHF + Lower UHF (30-512MHz)	Upper UHF + L-Band + S-Band (0.5-2.7GHz)	Mid C-Band (4.4 - 5.2GHz)	Upper C-Band (5-6GHz)
GRF2040	•	•	•	•
GRF2042	•	•	•	•
GRF2043	•	•	•	•

CLICK TO RETURN TO TABLE OF CONTENTS

CLICK TO RETURN TO TABLE OF CONTENTS

CLICK TO RETURN TO TABLE OF CONTENTS

	Rated Operating Freq (GHz)	Test Freq (GHz)	G (dB)	EVB NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Supply (V)	Current (mA)	Pkg
GRF9460	0.04-2.6	1.8	17.5	1.8	19.5	40	5	115	2.0 DFN-8
GRF4003	0.01-3.8	2.5	12.5	0.85	25	41	1.8-5.0	30-120	1.5 DFN-6
GRF4004	0.029-3.8	2.5	12.5	0.95	26.7	42.3	1.8-5.0	30-150	1.5 DFN-6
GRF2108	0.1-3.8	0.9	17	0.9	17.5	19	1.8-5.0	4-20	1.5 DFN-6
GRF2133	0.1-4.2	1.95	28	0.6	20	30	1.8-5.0	35-120	1.5 DFN-6
GRF2010	0.05-5	1.9	10.2	3.1	20	36	2.7-8.0	15-90	1.5 DFN-6
GRF2105	0.15-5.36	2.5	20.7	0.77	22.5	36	2.7-5.0	20-90	1.5 DFN-6
GRF4002	0.015-5.9	2.5	15	0.85	23.5	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF2012	0.05-6	0.9	15	2.7	22.5	40	2.7-8.0	30-120	1.5 DFN-6
GRF2110	5-8	6	16.3	1.2	22	38	2.7-5.0	70	1.5 DFN-6
GRF2013	0.01-9	1.9	18.5	1.3	22.5	38.5	2.7-8.0	15-100	1.5 DFN-6
GRF2115	0.05-11	5	17.3	1.7	21.5	35.6	5	130	2.0 DFN-8

	Rated Operating Freq (GHz)	Test Freq (GHz)	G (dB)	EVB NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Supply (V)	Current (mA)	Pkg
GRF2040	0.05-5.0	1.8	10.2	3.4	20.9	35.3	2.7-9.0	90	1.5 DFN-6
GRF2042	0.15-6.0	2.5	15.5	2.1	22	38	2.7-6.0	80	1.5 DFN-6
GRF2043	0.15-6.0	2.5	18.5	1.8	22	36	2.7-6.0	80	1.5 DFN-6

PARAMETRIC TABLES

DRIVERS & PRE-DRIVERS

	Band			
	VHF + Lower UHF (30-512MHz)	Upper UHF + L-Band + S-Band (0.5-2.7GHz)	Mid C-Band (4.4 - 5.2GHz)	Upper C-Band (5-6GHz)
GRF5504	•			
GRF5604	•			
GRF5109	•			
GRF5112	•			
GRF4003	•	•		
GRF5040	•	•		
GRF4004	•	•		
GRF4005	•	•		
GRF5847*			•	
GRF4002	•	•		
GRF5010		•		
GRF5020	•	•		
GRF5857*				•
GRF5511		•	•	•
GRF2013			•	•
GRF2115			•	•
GaN on SiC Discrete RF Transistors				
GRF0005		•	•	•
GRF0010		•		
GRF0012		•		

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

CLICK TO RETURN TO TABLE OF CONTENTS



CLICK TO RETURN TO TABLE OF CONTENTS



CLICK TO RETURN TO TABLE OF CONTENTS

	Rated Operating Freq (GHz)	Test Freq (GHz)	G (dB)	EVB NF (dB)	OP1dB (dBm)	PSAT (dBm)	OIP3 (dBm)	Supply (V)	Current (mA)	Pkg
GRF5504	0.1-0.55	0.46	41	-	34.3	35.3	-	3.5-5.0	125	3.0 QFN-17
GRF5604	0.1-0.6	0.46	37.5	4	38	-	-	3.6-5.0	247	3.0 QFN-16
GRF5109	0.1-2.2	0.83	19	1.3	28.5	-	43.5	2.7-5.0	50-200	3.0 QFN-16
GRF5112	0.03-3	1.805	17.1	1.7	32.2	-	40	2.7-5.0	212	3.0 QFN-16
GRF4003	0.01-3.8	2.5	12.5	0.85	25	-	41	1.8-5.0	30-120	1.5 DFN-6
GRF5040	0.025-3.8	2.5	15	0.85	29.8	-	46.3	4.5-10.0	100-250	3.0 QFN-16
GRF4004	0.029-3.8	2.5	12.5	0.95	26.7	-	42.3	1.8-5.0	30-150	1.5 DFN-6
GRF4005	0.1-3.8	2.5	13	0.85	27.5	-	43	1.8-5.0	50-200	1.5 DFN-6
GRF5847*	4.4-5.2	4.7	40	4.8	-	35.5	43	2.7-5.6	260	2.5x3.0 LAMM-12
GRF4002	0.015-5.9	2.5	15	0.85	23.5	-	36.5	1.8-5.0	20-80	1.5 DFN-6
GRF5010	0.01-6	2.5	17	0.82	24.5	-	38.5	2.7-10	50-120	3.0 QFN-16
GRF5020	0.03-6	2.5	17.3	0.8	24.5	-	37.2	4.5-10.0	50-200	3.0 QFN-16
GRF5857*	5.2-6	5.6	37	TBD	-	35.7	43	2.7-5.7	310	2.5x3.0 LAMM-12
GRF5511	0.4-8	2.5	20.1	1.5	26.1	-	39.6	4.5-9.0	50-200	3.0 QFN-16
GRF2013	0.01-9	1.9	18.5	1.3	22.5	-	38.5	2.7-8.0	15-100	1.5 DFN-6
GRF2115	0.05-11	5	17.3	1.7	21.5	-	35.6	5	130	2.0 DFN-8
GaN on SiC Discrete RF Transistors										
GRF0005	DC-12	9.3	12	-	-	37	-	28-40	20	3.0 QFN-16
GRF0010	DC-8	3.5	14.5	-	-	42	-	28-50	15	3.0 QFN-16
GRF0012	DC-12	3	16.5	-	-	40.8	-	28-40	20	3.0 QFN-16

PARAMETRIC TABLES

POWER AMPLIFIERS

	Band			
	VHF + Lower UHF (30-512MHz)	Upper UHF + L-Band + S-Band (0.5-2.7GHz)	Mid C-Band (4.4 - 5.2GHz)	Upper C-Band (5-6GHz)
GRF5504	•			
GRF5604	•			
GRF5109	•			
GRF5112	•			
GRF4005	•			
GRF5847*			•	
GRF5857*				•
GRF5511		•		
GaN on SiC Discrete RF Transistors				
GRF0005	•	•	•	•
GRF0010	•	•	•	•
GRF0012	•	•	•	•
GRF0020	•	•	•	•
GRF0030	•	•	•	•
GRF0065	•	•		
GRF5923	•	•	•	•

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

CLICK TO RETURN TO TABLE OF CONTENTS



CLICK TO RETURN TO TABLE OF CONTENTS



CLICK TO RETURN TO TABLE OF CONTENTS

	Rated Operating Freq (GHz)	Test Freq (GHz)	G (dB)	EVB NF (dB)	OP1dB (dBm)	PSAT (dBm)	OIP3 (dBm)	Supply (V)	Current (mA)	Pkg
GRF5504	0.1-0.55	0.46	41	-	34.3	35.3	-	3.5-5.0	125	3.0 QFN-17
GRF5604	0.1-0.6	0.46	37.5	4	38	-		3.6-5.0	247	3.0 QFN-16
GRF5109	0.1-2.2	0.83	19	1.3	28.5	-	43.5	2.7-5.0	50-200	3.0 QFN-16
GRF5112	0.03-3	1.805	17.1	1.7	32.2	-	40	2.7-5.0	212	3.0 QFN-16
GRF4005	0.1-3.8	2.5	13	0.85	27.5	-	43	1.8-5.0	50-200	1.5 DFN-6
GRF5847*	4.4-5.2	4.7	40	4.8	-	35.5	43	2.7-5.6	260	2.5x3.0 LAMM-12
GRF5857*	5.2-6	5.6	37	TBD	-	35.7	43	2.7-5.7	310	2.5x3.0 LAMM-12
GRF5511	0.4-8	2.5	20.1	1.5	26.1	-	39.6	4.5-9.0	50-200	3.0 QFN-16
GaN on SiC Discrete RF Transistors										
GRF0005	DC-12	9.3	12	-	-	37	-	28-40	20	3.0 QFN-16
GRF0010	DC-8	3.5	14.5	-	-	42	-	28-50	15	3.0 QFN-16
GRF0012	DC-12	3	16.5	-	-	40.8	-	28-40	20	3.0 QFN-16
GRF0020	DC-7	3	15.5	-	-	45	-	28-50	30	3.0 QFN-16
GRF0030	DC-6	3	15.5	-	-	47	-	28-50	50	3.0 QFN-16
GRF0065	DC-3.7	3.6	10	-	-	48.7	-	28-50	78	6x3 DFN-14
GRF5923	DC-6	3.5	13.5	-	-	47	-	28-50	50	4.0 QFN-24

PARAMETRIC TABLES

DSA / DVGAs

	Band			
	VHF + Lower UHF (30-512MHz)	Upper UHF + L-Band + S-Band (0.5-2.7GHz)	Mid C-Band (4.4 - 5.2GHz)	Upper C-Band (5-6GHz)
GRF6402	•	•	•	•
GRF6403	•	•	•	•
GRF6411	•	•	•	•
GRF6412	•	•	•	•

POWER DETECTORS

	Band			
	VHF + Lower UHF (30-512MHz)	Upper UHF + L-Band + S-Band (0.5-2.7GHz)	Mid C-Band (4.4 - 5.2GHz)	Upper C-Band (5-6GHz)
GRF1201	•	•	•	•
GRF1201W	•	•	•	•
GRF1202	•	•	•	•

SPDT RF SWITCHES with FAILSAFE

	Band			
	VHF + Lower UHF (30-512MHz)	Upper UHF + L-Band + S-Band (0.5-2.7GHz)	Mid C-Band (4.4 - 5.2GHz)	Upper C-Band (5-6GHz)
GRF6011	•	•	•	•
GRF6001*	•	•	•	•
GRF6018	•	•	•	•

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

CLICK TO RETURN TO TABLE OF CONTENTS



CLICK TO RETURN TO TABLE OF CONTENTS



CLICK TO RETURN TO TABLE OF CONTENTS

	Rated Operating Freq (GHz)	Test Freq (GHz)	Reference Conditions	Attenuation Range (dB)	Step Size (dB)	Control Interface	Supported Addresses	Gain (dB)	EVB NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Supply (V)	Current (mA)	Pkg
GRF6402	0.05 – 6.0	2	-	31.75	0.25	SPI	8	-1.3	1.3	60	60	3.0-5.5	2.5	3.0 QFN-16
GRF6403	0.05 – 6.0	2	-	31.75	0.25	SPI + Parallel	1	-1.3	1.3	60	60	3.0-5.5	2.5	4.0 QFN-24
GRF6411	0.05 – 8.0	2	DSA → AMP	31.75	0.25	SPI	1	19.2	2.6	22.7	35.8	3.0-5.5	130	3.0 QFN-16
GRF6412	0.05 – 8.0	2	DSA → AMP AMP → DSA	31.75	0.25	SPI	8	19.8 19.2	2.6 1.8	22.5 21.7	37 35.7	3.0-5.5	130	4.0 QFN-24

	Rated Operating Freq (GHz)	RF Input Power Range (dBm)	Output Voltage Range (V)	Slope (mV/dB)	Intercept (dBm)	Supply (V)	Current (mA)	Pkg
GRF1201	0.1-6.0	-20 to +20	1.1-4.3	80	-33.2	2.7-5.0	7	1.5 DFN-6
GRF1201W	0.1-6.0	-20 to +20	1.1-4.3	80	-33.2	2.7-5.0	7	1.5 DFN-6
GRF1202	0.1-8.0	-60 to +5	0.4-3.5	27	-	3.3-6.0	18	1.5 DFN-6

	Rated Operating Freq (GHz)	Test Freq (GHz)	Reference Conditions	IL (dB)	RF1 to RF2 ISO (dB)	IP1dB (dBm)	IIP3 (dBm)	Supply (V)	Pkg
GRF6011	0.1 - 6	1.9	RFC to RF1 RFC to RF2	0.43 0.33	28 38	32.0 30.5	49.5 51.0	3.0-5.0	1.5 DFN-6
GRF6001*	0.1 - 8	2	RFC to RF1 RFC to RF2	0.49 0.54	31.9 30.8	34.5 34	- -	3.0-5.0	1.5 DFN-6
GRF6018	0.1 - 12	8	RFC to RF1 RFC to RF2	1.1 1.1	15.7 15.2	30+ 30+	40 37.2	3.0-5.0	1.5 DFN-6



GUERRILLARF
MAKING BETTER NETWORKS™

2000 Pisgah Church Rd. • Greensboro, North Carolina 27455 • 336.510.7840
guerrilla-rf.com