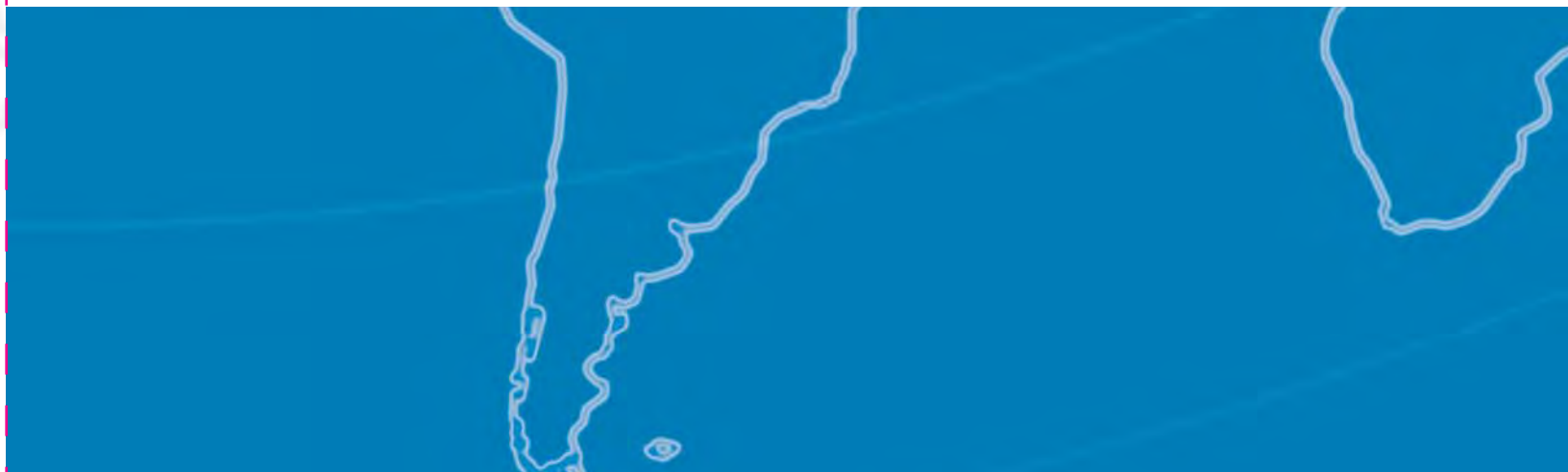




ALGA

MICROWAVE 

PRODUCT GUIDE



OUTDOOR KU-BAND SSPA's



FEATURES:

- Weatherproof Pressure tested up to 10 psi
- Light weight & Compact
- Redundancy option
- Overtemperature Shutdown

Model	Output Power at PSAT typ. [Watts]	Output Power at P1dB min [Watts] / [dBm]	Gain, dB Min	Power Consumption [Watts]	Weight [lbs / kgs]	Size L X W X H [Inches]
NJALKU-20-PA	20	16 W / 42 dBm	70	250	22 / 10	10.9 X 9.7 X 8.7
NJALKU-25-PA	25	20 W / 43 dBm	70	300	22 / 10	10.9 X 9.7 X 8.7
NJALKU-30-PA	30	25 W / 44 dBm	70	350	22 / 10	10.9 X 9.7 X 8.7
NJALKU-50-PA	50	40 W / 46 dBm	80	600	31 / 14	12.7 X 10.7 X 10.7
NJALKU-60-PA	60	50 W / 47 dBm	80	650	31 / 14	12.7 X 10.7 X 10.7
NJALKU-100-PA	100	80 W / 49 dBm	80	1200	82 / 37	16.5 X 15.4 X 9.2

Electrical Characteristics		Technical Specifications	
Output Frequency Range	See options	14.00 to 14.50 GHz	options XXX
Input Frequency Range		14.00 to 14.50 GHz	options XXX
Gain flatness over any 40 MHz		+/-0.5 dB max at room temperature	
Gain flatness over full band		+/-1.0 dB max at room temperature	
Gain Variation		± 1.0 dB over operating temperature range	
Gain Adjustment Range		20 dB with 1 dB step size	
Input Return Loss		-17dB, max	
Output Return Loss		-17dB, max	
Noise Figure		12 dB @ maximum gain setting	
Spurious at rated power		-60 dBc max.	
Third order IMD (two equal tones 5Mhz apart)		-33dBc max. @ 7dB back off from rated P1dB, -25dBc max. @ 3dB back off from rated P1dB	
Group Delay		Linear	+/- 0.01 nsec / MHz max
		Parabolic	+/- 0.003 nsec / MHz(squared) max
		Ripple	1 nsec Peak to Peak

Power Requirements		
Input supply voltage	See options	110/220 VAC ±15% (47-63 HZ) Auto Ranging 48 VDC optional for certain models

Mechanical Characteristics	
RF input (Ku Band) Interface	Type N Connector
RF output (Ku-Band) Interface	WR75 Grooved
Power Input	MS3102R16-10P
M&C Interface	MS3102R20-29S
Redundant Interface	MS3102R18-1S
Temperature Operating	-40° C to +55°C
Storage	-55°C to +85°C
Humidity	100%, considering, rain 2" per hour
Altitude	10000' AMSL

Options (XXX)	Output Frequency	(X) 13.75 - 14.5 GHz	(X) 13.75 - 14.25 GHz	(X) Other
	Power Supply	110 / 220 VAC	(X) 48 VDC	(X) Other
	Input Connector	N-Type	(X) Other	(X) Other
	Output Connector	WR-75 Grooved	(X) N-Type	(X) Other
	M & C Interface	Analog (ITL)	(X) Digital (RS 232 or 485)	(X) Other
M & C functions	Gain control, RF Power detection, Temperature Monitor & Mute Control, etc...			

Note: The specifications are subject to change without notice.

OUTDOOR KU-BAND UPCONVERTER (BUC)



FEATURES:

- Weatherproof Pressure tested up to 10 psi
- Light weight & Compact
- Redundancy option
- Overtemperature shutdown

Model	Output Power at PSAT typ. [Watts]	Output Power at P1dB min [Watts] / [dBm]	Gain, dB Min	Power Consumption [Watts]	Weight [lbs / kgs]	Size L X W X H [Inches]
NJALKU-12	12	10 W / 40 dBm	60	150	15 / 7	10.9 X 9.7 X 5.3 (FANLESS)
NJALKU-16	16	12 W / 41 dBm	70	170	15 / 7	10.9 X 9.7 X 5.3 (FANLESS)
NJALKU-20	20	16 W / 42 dBm	70	250	22 / 10	10.9 X 9.7 X 8.7
NJALKU-25	25	20 W / 43 dBm	70	300	22 / 10	10.9 X 9.7 X 8.7
NJALKU-30	30	25 W / 44 dBm	70	350	22 / 10	10.9 X 9.7 X 8.7
NJALKU-50	50	40 W / 46 dBm	80	600	31 / 14	12.7 X 10.7 X 10.7
NJALKU-60	60	50 W / 47 dBm	80	650	31 / 14	12.7 X 10.7 X 10.7
NJALKU-100	100	80 W / 49 dBm	80	1200	82 / 37	16.5 X 15.4 X 9.2

Electrical Characteristics		Technical Specifications	
Output Frequency Range	See options	14.00 to 14.50 GHz, options XXX	
Input Frequency Range, (LO)	options XXX	950 to 1450 MHz, (13.05 GHz reg., 12.8 GHz ext.)	
Gain flatness over any 40 MHz		+/-1.0 dB max at room temperature	
Gain flatness over full band		+/-2.5 dB max at room temperature	
Gain Variation		± 2.5 dB over operating temperature range	
Input VSWR (L-Band)		2.0 : 1, max	
Output Return Loss (Ku-Band)		-17dB, max	
Spurious at rated power		-50 dBc max.	
Third order IMD (two equal tones 5Mhz apart)		-33dBc max. @ 7dB back off from rated P1dB, -25dBc max. @ 3dB back off from rated P1dB	
Output Phase Noise		@ 1KHz	-70 dBc / Hz
		@ 10 KHz	-80 dBc / Hz
		@ 100 KHz	-90 dBc / Hz

Power Requirements		
Input supply voltage	See options	110/220 VAC ±15% (47-63 HZ) Auto Ranging 48 VDC optional for certain models

Mechanical Characteristics	
IF input (L-Band) Interface	Type N Connector (Type F Connector Optional)
RF output (C-Band) Interface	WR75 Grooved
Power Input	MS3102R16-10P
M&C Interface	MS3102R20-29S
Redundant Interface	MS3102R18-1S
Temperature Operating	-40° C to +55°C
Storage	-55°C to +85°C
Humidity	100%, considering, rain 2" per hour
Altitude	10000' AMSL

Options (XXX)	Output Frequency	(X) 13.75 - 14.5 GHz	(X) 13.75 - 14.25 GHz	(X) Other
	Power Supply	110 / 220 VAC	(X) 48 VDC	(X) Other
	Input Connector	N-Type	(X) F-Type	(X) Other
	Output Connector	WR-75 Grooved	(X) N-Type	(X) Other
	M & C Interface	Analog (TTL)	(X) Digital (RS 232 or 485)	(X) Other
M & C functions	Output Level control, RF Power detection, Temperature Monitor & Mute Control, etc...			

Note: The specifications are subject to change without notice.

OUTDOOR C-BAND SSPA's



FEATURES:

Weatherproof Pressure tested up to 10 psi
 Light weight & Compact
 Redundancy option
 Overtemperature Shutdown

Model	Output Power at PSAT typ. [Watts]	Output Power at P1dB min [Watts] / [dBm]	Gain, dB Min	Power Consumption [Watts]	Weight [lbs / kgs]	Size L X W X H [Inches]
NJALC-50-PA	50	40 W / 46 dBm	70	450	26 / 12	11 X 9.6 X 8.5
NJALC-60-PA	60	50 W / 47 dBm	70	500	26 / 12	11 X 9.6 X 8.5
NJALC-80-PA	80	60 W / 47.8 dBm	70	550	28 / 13	11.5 X 11.2 X 11.3
NJALC-100-PA	100	80 W / 49 dBm	80	600	31 / 14	11.5 X 11.2 X 11.3
NJALC-125-PA	125	100 W / 50 dBm	80	750	31 / 14	11.5 X 11.2 X 11.3
NJALC-250-PA	250	200 W / 53 dBm	80	1200	82 / 37	21.3 X 18.3 X 10.2

Electrical Characteristics

Electrical Characteristics		Technical Specifications	
Output Frequency Range	See options	5.85 to 6.425 GHz,	options XXX
Input Frequency Range		5.85 to 6.425 GHz,	options XXX
Gain flatness over any 40 MHz		+/-0.5 dB max at room temperature	
Gain flatness over full band		+/-1.0 dB max at room temperature	
Gain Variation		± 1.0 dB over operating temperature range	
Gain Adjustment Range		20 dB with 1 dB step size	
Input Return Loss		-17dB, max	
Output Return Loss		-17dB, max	
Noise Figure		10 dB @ maximum gain setting	
Spurious at rated power		-60 dBc max.	
Third order IMD (two equal tones 5Mhz apart)		-34dBc max. @ 7dB back off from rated P1 dB, -26dBc max. @ 3dB back off from rated P1 dB	
Group Delay	Linear	+/- 0.01 nsec / MHz max	
	Parabolic	+/- 0.003 nsec / MHz(squared) max	
	Ripple	1 nsec Peak to Peak	

Power Requirements

Input supply voltage	See options	110/220 VAC ±15% (47-63 HZ) Auto Ranging 48 VDC optional for certain models
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Mechanical Characteristics

RF input (C-Band) Interface	Type N Connector
RF output (C-Band) Interface	CPR137 Grooved (Type N optional)
Power Input	MS3102R16-10P
M&C Interface	MS3102R20-29S
Redundant Interface	MS3102R18-1S
Temperature Operating	-40° C to +55°C
Storage	-55°C to +85°C
Humidity	100%, considering, rain 2" per hour
Altitude	10000' AMSL

Options (XXX)	Output Frequency	(X) 5.85 - 6.725 GHz	(X) 6.725 - 7.025 GHz	(X) Other
	Power Supply	110 / 220 VAC	(X) 48 VDC	(X) Other
	Input Connector	N-Type	(X) other	(X) Other
	Output Connector	CPR137 Grooved	(X) N-Type	(X) Other
	M & C Interface	Analog (TTL)	(X) Digital (RS 232 or 485)	(X) Other
M & C functions	Gain control, RF Power detection, Temperature Monitor & Mute Control, etc...			

Note: The specifications are subject to change without notice.

OUTDOOR C-BAND UPCONVERTER (BUC)



FEATURES:

Weatherproof Pressure tested up to 10 psi
 Light weight & Compact
 Redundancy option
 Overtemperature shutdown

Model	Output Power at PSAT typ. [Watts]	Output Power at P1dB min [Watts] / [dBm]	Gain, dB Min	Power Consumption [Watts]	Weight [lbs / kgs]	Size L X W X H [Inches]
NJALC-16	16	12 W / 41 dBm	70	150	15 / 7	11 X 9.6 X 5.2 (FANLESS)
NJALC-25	25	20 W / 43 dBm	70	300	18 / 8	11 X 9.6 X 8.5
NJALC-50	50	40 W / 46 dBm	70	450	26 / 12	11 X 9.6 X 8.5
NJALC-60	60	50 W / 47 dBm	70	500	26 / 12	11 X 9.6 X 8.5
NJALC-80	80	60 W / 47.8 dBm	70	550	28 / 13	11.5 X 11.2 X 11.3
NJALC-100	100	80 W / 49 dBm	80	600	31 / 14	11.5 X 11.2 X 11.3
NJALC-125	125	100 W / 50 dBm	80	750	31 / 14	11.5 X 11.2 X 11.3
NJALC-250	250	200 W / 53 dBm	80	1200	82 / 37	21.3 X 18.3 X 10.2

Electrical Characteristics

Technical Specifications

Output Frequency Range	See options	5.85 to 6.425 GHz	options XXX
Input Frequency Range, (LO)	options XXX	950 to 1,525 MHz, (LO 4.9 GHz)	options XXX
Gain flatness over any 40 MHz		+/-1.0 dB max at room temperature	
Gain flatness over full band		+/-2.75 dB max at room temperature	
Gain Variation		± 2.5 dB over operating temperature range	
Input VSWR (L-Band)		2.0 : 1, max	
Output Return Loss		-17dB, max	
Spurious at rated power		-50 dBc max.	
Third order IMD (two equal tones 5Mhz apart)		-34dBc max. @ 7dB back off from rated P1dB, -26dBc max. @ 3dB back off from rated P1dB	
Output Phase Noise		@ 1KHz	-70 dBc / Hz
		@ 10 KHz	-80 dBc / Hz
		@ 100 KHz	-90 dBc / Hz

Power Requirements

Input supply voltage	See options	110/220 VAC ±15% (47-63 Hz) Auto Ranging 48 VDC optional for certain models
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Mechanical Characteristics

IF input (L-Band) Interface	Type N Connector (Type F Connector Optional)		
RF output (C-Band) Interface	CPR137 Grooved		(Type N optional)
Power Input	MS3102R16-10P		
M&C Interface	MS3102R20-29S		
Redundant Interface	MS3102R18-1S		
Temperature Operating	-40° C to +55°C		
Storage	-55°C to +85°C		
Humidity	100%, considering, rain 2" per hour		
Altitude	10000' AMSL		

Options (XXX)	Output Frequency	(X) 5.85 - 6.725 GHz	(X) 6.725 - 7.025 GHz	(X) Other
	Power Supply	110 / 220 VAC	(X) 48 VDC	(X) Other
	Input Connector	N-Type	(X) F-Type	(X) Other
	Output Connector	CPR137 Grooved	(X) N-Type	(X) Other
	M & C Interface	Analog (TTL)	(X) Digital (RS 232 or 485)	(X) Other
M & C functions	Output Level control, RF Power detection, Temperature Monitor & Mute Control, etc...			

Note: The specifications are subject to change without notice.

Alga Microwave, established in 2003, manufactures high quality, cost-effective active and passive RF/Microwave components used in Satellite, Radar, Mobile and Broadcasting communications systems and numerous other RF/Microwave applications. Our mission is to offer an unbeatable turnkey solution to meet needs of current and future wireless environments.

The following products are the key part of the offering:

High Power Solid State Power Amplifiers, BUC's, Transmitter, Transceiver systems for both Indoor and Outdoor Applications. The products cover all major frequency standards specifically:

S, C, X, Ku & Ka BANDS
2.0 to 31 GHz
1 W to 5 kW.

RF/Microwave Subsystems and Subassemblies

- **Indoor or Outdoor**
- **Modules or Complete assemblies**
- **Redundancy Systems**

Filters, Diplexers, Couplers, Adaptors, Combiners/Dividers, and Waveguide Assemblies. The products cover all major frequency standards from 100 MHz to 40 GHz.

Our products are designed and assembled at the company's manufacturing facility in Montreal, Canada.

Please contact us to learn more about our products.

OUR PRODUCTS



10 - 16W Ku-Band



80 - 100W Ku-Band



40 - 60W Ku-Band



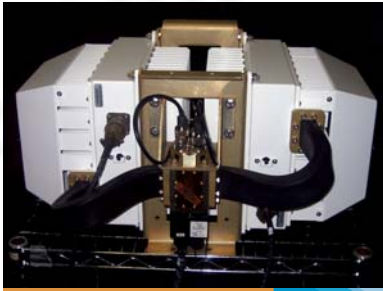
80 - 125W C-Band



40 - 150W C-Band RM



80 - 100W Ku-Band



80 - 125W C-Band 1+1



200 - 250W C-Band



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