



...designed for perfect signals

RF Line Amplifiers HQR Series



Product Overview

PRODUCTS

	HQR445C	HQR245C	HQR145C2
	N+1 redundant L-Band Line Amplifier, 1+1 to 4+1	1+1 redundant / 2 single high precision L-Band Amplifier	1+1 redundant L-Band / ext. L-Band Amplifier
Chassis:	1RU/19" rack mount	1RU/19" rack mount	1RU/19" rack mount
Power Supply:	85 – 230V, 50/60Hz, 1:1 redundant (hot-swappable)	90 – 264V, 50/60Hz, 1:1 redundant (hot-swappable)	85 – 264V, 50/60Hz, 1+1 redundant (hot-swappable)
Power Consumption:	<10W	<10W	<10W
Frequency Range:	950 – 2150MHz (L-Band Module HQA45MG), 850 – 2700MHz (Extended L-Band Module HQA45MG2700)	950 – 1750MHz and 2150MHz	950 – 2150MHz (L-Band Module HQA45MG), 850 – 2700MHz (Extended L-Band Module HQA45MG2700)
Input/Output Connectors:	50Ohm SMA(f)	50Ohm SMA(f)	50Ohm SMA(f)
Input Return Loss:	16dB typ. (no slope) (L-Band Module HQA45MG), 15dB typ. (no slope) (Extended L-Band Module HQA45MG2700)	14dB min. with L-Band Module HQA45MGFT, 16dB min. with L-Band Module HQA45MGFTNS	18dB typ. (no slope) (L-Band Module HQA45MG), 15dB typ. (no slope) (Extended L-Band Module HQA45MG2700)
Output Return Loss:	14dB min. 16dB typ.	16dB min.	14dB min. 16dB typ.
Frequency Response:	±0,5dB typ., ±1,0dB max. (L-Band Module HQA45MG) ±0,1dB max. in 40 MHz Window (L-Band Module HQA45MG) ±1,0dB typ., ±1,5dB max. (Extended L-Band Module HQA45MG2700) ±0,15dB max. in 40 MHz Window (Extended L-Band Module HQA45MG2700)	±0,5dB typ., ±1,0dB max., ±0,2dB max. in 40 MHz, ±0,1dB max. in 10 MHz Window	±0,5dB typ., ±1,0dB max. ±0,1dB max. in 40 MHz Window (L-Band HQA45MG) ±1,0dB typ., ±1,5dB max. ±0,15dB max. in 40 MHz Window (Ext. L-Band HQA45MG2700)

Variable Gain Control:	0 to 40dB (accuracy $\pm 0,25$ dB), 1dB steps	0 to 40dB (accuracy $\pm 0,2$ dB), 1dB steps coarse, 0,2dB ($\pm 0,1$ dB) step fine	0 to 40dB (accuracy $\pm 0,25$ dB), 1dB steps
Gain Mode:	MGC/AGC	MGC/AGC	MGC/AGC
Slope equalization:	0 to 7dB, 1dB steps	0 to 7dB, 1dB steps manual adjust over full band 950-2150MHz	0 to 7dB, 1dB steps
Max. RF Input Power:	+13dBm (no damage)	+13dBm (no damage)	+13dBm (no damage)
Max. RF Output Power:	+24dBm	+23dBm	+24dBm
Noise Figure:	<6dB @ full gain	≤ 3 dB @ full gain	<6dB @ full gain
Spurious Free Dynamic Range:	< -76dBm	< -80dBm	< -80dBm
IMA3/OIP3:	> -40dBc typ. @ +17dBm / OIP3 +38dBm min.	> -40dBc typ. @ +15dBm / OIP3 +33dBm	> -40dBc typ. @ +17dBm / OIP3 +38dBm min.
1dB Compression Point:	+23dBm @ full gain	+21dBm @ full gain	+23dBm @ full gain
Group Delay:	0,03ns/MHz typ., 1ns/peak to peak max.	0,03ns/MHz typ., 1ns/peak to peak max.	0,03ns/MHz typ., 1ns/peak to peak max.
Amplifier Monitoring:	Current Draw and RF Power	Current Draw and RF Power	Current Draw and RF Power
Amplifier Switchover Time:	<100msec (depends on amplifier qty)	<5msec (without detection time)	<100msec (depends on amplifier qty)
Threshold Alarm:	Adjustable -40dBm to +10dBm	Adjustable -40dBm to +10dBm	Adjustable -40dBm to +10dBm
Output Limiter:	Adjustable -30dBm to +17dBm	Adjustable -30dBm to +17dBm	Adjustable -30dBm to +17dBm
Local Access/Configuration:	Front panel OLED Display/keypads	Front panel OLED Display/keypads	Front panel OLED Display/keypads, status LED's at each amplifier module
Remote Access/Configuration:	100Mbit Ethernet-Interface (WebGUI, SNMPv2c), RS232	100Mbit Ethernet-Interface (WebGUI, SNMPv2c), RS232	100Mbit Ethernet-Interface (WebGUI, SNMPv2c), RS232
MTBF/MTTR:	>400kHrs at 25°C / 24 hours	>400kHrs at 25°C / 24 hours	>400kHrs at 25°C / 24 hours
Operating Temperature:	-10°C to 50°C	-10°C to 50°C	-10°C to 50°C
Storage Temperature:	-20°C to 75°C	-20°C to 75°C	-20°C to 75°C
Humidity:	20 - 95%, non-condensing	20 - 95%, non-condensing	20 - 95%, non-condensing
RoHS:	Compliant	Compliant	Compliant