

HXI Products to Support 5G Communications Development & Testing

Coaxial LNAs						
Model Number	Frequency Range (GHz)	Interfaces	Noise Figure (dB) typical	Gain (dB) typical	P _{1dB} (dBm) typical	
*HLNAKK-641	17.0 – 27.0	2.9 mm Female	2.3	21	+15	
HLNAAK – 076	24.0 – 31.0	2.9 mm Female	3.2	30	+8	
*HLNAAK-642	26.0 – 34.0	2.9 mm Female	2.4	17	+3	
*HLNAAK-644	18.0 – 40.0	2.9 mm Female	4.5	14	+5	
*HLNAQK-643	33.0 – 45.0	2.4 mm Female	3.1	16	+1	
HLNAVC-465	57.0 – 66.0	1.85 mm Female	5.5	24	+10	
Waveguide LNAs						
HLNAA - 314	28.0 – 36.0	WR-28 / UG- 599/U	3.5	19	+13	
HLNAV-361	57.0 – 66.0	WR-15 / UG-385/U	5.0	28	+10	
HLNAV-646	66.0 – 71.0	WR-15 / UG-385/U	4.8	17	+7	
HLNAE-630	71.0 – 76.0	WR-12 / UG-387/U	5.5	18	+6	
HLNAE-632	81.0 – 86.0	WR-12 / UG-387/U	4.5	17	+5	
Coaxial Power Amplifiers						
Model Number	Frequency Range (GHz)	Interfaces	P _{1dB} (dBm) typical		Gain (dB) typical	
HMPAAK-133	17.0 - 31.0	2.9 mm Female	+20		30	
HHPAKK-371	23-5 - 26.5	2.9 mm Female	+19		30	
Waveguide Power Amplifiers						
HHPAV-548	57.0 - 66.0	WR-15, UG- 385/U	+21		32	
HHPAV-254	57.5 - 66.0	WR-15, UG- 385/U	+16		25	
HHPAE-603	71.0 – 76.0	WR-12, UG-387/U	+20		35	
HHPAE-604	81.0 – 86.0	WR-12, UG-387/U	+20		33	
Active Frequency Multipliers						
Model Number	Input/Output Frequency Ranges	XN	Input Interface	Output Interface	Input Power (dBm)	Output power (dBm)
HAFMA2-116	12.0-16.5/24.0-33.0	X2	2.9 mm female	2.9 mm female	+10	+15
HAFMA2-052	14.0-18.0/28.0-36.0	X2	SMA female	WR-28, UG-599/U	+13	+18
HAFMA2-117	16.0-20.0/32.0-40.0	X2	2.9 mm female	2.9 mm female	+13	+13
HAFM2K-324	16.0-20.0/32.0-40.0	X2	2.9 mm female	2.9 mm female	+10	+17
HAFMB4K-328	9.0-11.0/36.0-44.0	X4	2.4 mm female	2.4 mm female	-5	+16

PIN Diode Switches (100-200 mW Power Handling)

Model Number	Frequency (GHz)	SPST or SPDT	Interface	Insertion Loss (dB)	Isolation (dB)	Switching Speed (ns)
						10-90%/90-10%
HSWM4201/2.9-320	18.0 – 26.5	SPST	2.9 mm female	1.2	35	10 / 10
HSWM2801/2.9-176	26.5 – 40.0	SPST	2.9 mm female	2.8	35	10 / 10
HSWM22801-180	26.5 – 40.0	SPDT	2.9 mm Female	3.0	28	10 / 10

PIN Diode Switches (10W Power Handling)

Model Number	Frequency (GHz)	SPST or SPDT	Interface	Insertion Loss (dB)	Isolation (dB)	Switching Speed (ns)
HSWM22801-309	26.0 – 40.0	SPDT	2.9 mm Female	1.8	30	30

Schottky Diode Balanced Mixers (Custom Frequency Ranges Readily Available)

Model Number	RF Input Frequency Range	LO Input Frequency	IF Output Frequency Range	Conversion Loss	LO Input Power
HBM2806-435	26.5 – 29.5 GHz	23.5 GHz	3.0 -6.0 GHz	6 dB typical	+13 dBm nominal
HBM2806-436	37.0 - 40.0 GHz	34.0 GHz	3.0-6.0 GHz	6.5 dB typical	+13 dBm nominal

Schottky Diode Balanced Upconverters with External Sideband Filter (Custom Frequency Ranges Readily Available)

Model Number	RF Output Frequency Range	LO Input Frequency	IF Input Frequency Range	Conversion Loss	LO Input power
HBUC2806F-175	26.5 - 29.5 GHz	23.5 GHz	3.0 - 6.0 GHz	8.0 dB typical	+13 dBm nominal
HBUC2806F-176	37.0 - 40.0 GHz	34.0 GHz	3.0 - 6.0 GHz	8.5 dB typical	+13 dBm nominal

Broadband Digital Attenuators

Part Number	Frequency (GHz)	Interface	# of Bits	Insertion Loss	Input P1dB	Switching Time	DC Bias
HDA040-069	DC to 40	2.9 mm female	6	4.0 dB @ DC 11.5 dB @ 40 GHz	+23 dBm	45 ns	+5V @ 17 mA typ

Isolators & Circulators (Available in center frequencies from 26 to 110 GHz)

Isolator Part Number	Circulator Part Number	Frequency Range (GHz)	Waveguide/ Flange	Insertion Loss (dB)	Isolation (dB)	Forward Power Handling (avg)	Reverse Power Handling (Isolator only)
HMI28-599- 28.0-3.0	HMC28-599- 28.0-3.0	26.5 – 29.5	WR-28 UG-599/U	0.2 dB typ 0.4 dB max	22 dB min 25 dB typ	5 watts	2 watts
HMI28-599-38.5-3.0	HMC28-599-38.5-3.0	37.0 – 40.0	WR-28 UG-599/U	0.2 dB typ 0.4 dB max	22 dB min 25 dB typ	5 watts	2 watts
HMI12-387-73.5-5.0	HMC12-387-73.5-5.0	71.0 – 76.0	WR-12 UG-387/U	0.6 dB typ 0.9 dB max	16 dB min 19 dB typ	1.5 watts	0.5 watts
HMI12-387-83.5-5.0	HMC12-387-83.5-5.0	81.0 – 86.0	WR-12 UG-387/U	0.6 dB typ 0.9 dB max	16 dB min 19 dB typ	1.5 watts	0.5 watts
HFBI28	N/A	26.5-40.0	WR-28 UG-599/U	1.3 dB max	25 dB min	2 watts	2 watts

