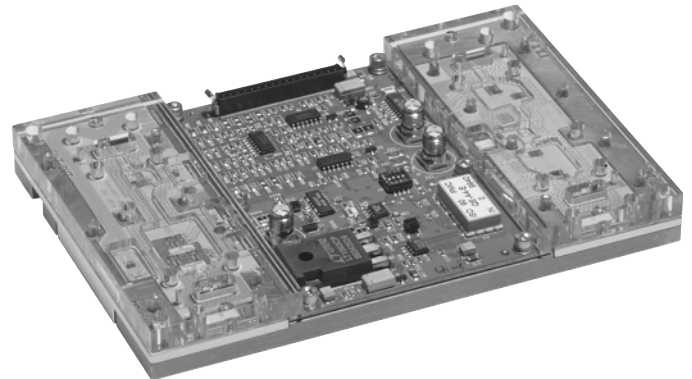


Features

- Complete Millimeter Wave Transceiver
- Broadband IF Input/Output
- Hub Output Power >+29 dBm
- CPE Output Power +26 dBm
- Power Detect
- Includes Provisions for LO Filter
- Low Spurious
- Transmit Mute
- FCC Compliant
- Single Compact Package
- Same Configuration Hub and CPE (24, 26, and 28 GHz)



Description

The SDH multipoint transceiver referenced below was designed and manufactured by Endwave for a major OEM of networking equipment. The transceiver provides a complete subsystem containing all the necessary transmit and receive functions required for a full-featured QPSK millimeter wave digital multipoint radio. A single mechanical design was utilized for both the Hub and the CPE units, across 24, 26, and 28 GHz bands. An external filter was utilized to allow the operator to determine and control the specific band plan. The up converter section provided +26 dBm Psat, ALC, power control, and mute functions. The down converter section includes an LNA preamp for low noise and a total gain of 30–38 dB. Both sections will accommodate a range of LO frequencies from 12.45 – 13.05 GHz. Separate multiplier chains provide high Tx/Rx isolation to meet the most demanding spurious and interference requirements.

Specifications*

	24 GHz CPE	24 GHz HUB	26 GHz CPE	26 GHz HUB
Transmit Section				
RF Frequency Range (GHz)	24.25 – 25.25	24.25 – 25.25	24.5 – 26.5	24.5 – 26.5
IF Input Frequency (MHz)	450 – 650	450 – 650	425 – 850	425 – 850
Output Power, Psat (dBm)	26	>29	26	>29
Small Signal Gain (dB)	35 – 44	35 – 44	35 – 44	35 – 44
Gain Window Over, Temp (+dB)	2.0	2.0	2.0	2.0
Gain Flatness over 40, MHz (+dB)	0.3	0.3	0.3	0.3
IF Input Level (dBm)	10	10	10	10
RF Output Return Loss (dB)	8	8	8	8
Max. IF Input Return Loss (dB)	10	10	10	10

SDH Transceiver

Specifications* (Continued)

	24 GHz CPE	24 GHz HUB	26 GHz CPE	26 GHz HUB
Transmit Section				
Output IP3 (dBm)	34	38	34	38
Noise Figure (dBm)	23.5	23.5	23.5	23.5
Telemetry Power Range (dBm)	14 – 24	14 – 24	12 – 24	12 – 24
Telemetry Power Range (V)	0 – 5	0 – 5	0 – 5	0 – 5
Stability	Unconditional	Unconditional	Unconditional	Unconditional
Receive Section				
RF Frequency Range (GHz)	24.25 – 25.25	24.25 – 25.25	24.5 – 26.5	24.5 – 26.5
IF Input Frequency (MHz)	150 – 350	150 – 350	125 – 406	125 – 406
Noise Figure (dB)	4.1	4.1	4.1	4.1
Input IP3 (dBm)	-6	-6	-10	-10
Input Compression, P1dB (dBm)	-18	-18	-18	-18
Small Signal Gain (dB)	30 – 38	30 – 38	30 – 38	30 – 38
Gain Window Over, Temp (+dB)	1.5	1.5	1.5	1.5
Gain Flatness over 40, MHz (+dB)	0.3	0.3	0.3	0.3
Max RF Input Level (dBm)	10	10	10	10
RF Input Return Loss (dB)	10	10	12	12
IF Output Return Loss (dB)	10	10	10	10
TX to Rx Isolation (dB)	75	75	75	75
LO Section				
Input Frequency Range (GHz)	12.3 – 12.45	12.3 – 12.45	12.45 – 13.05	12.45 – 13.05
Multiplication Factor	2	2	2	2
Input Return Loss (dB)	10	10	10	10
Input Signal Level (dBm)	14 – 19	14 – 19	15 – 19	15 – 19
Mechanical				
Dimensions (in)	5.7 x 3.8 x .6	5.7 x 3.8 x .6	5.7 x 3.8 x .6	5.7 x 3.8 x .6
Weight (Kg)	<1.1	<1.1	<1.1	<1.1
Waveguide Interface	WR-42	WR-42	WR-42	WR-42
IF, LO Connectors	SMA	SMA	SMA	SMA
Supply, Control Connectors	Multipin	Multipin	Multipin	Multipin
Operating Temperature (C)	-40° to +70°	-40° to +70°	-40° to +70°	-40° to +70°
Power Supply				
Positive Supply Voltage (V)	12, 7.35	12, 7.35	12, 7.35	12, 7.35
Positive Supply Current (A)	0.48, 3	0.48, 5.1	0.48, 3	0.48, 5.1
Negative Supply Voltage (V)	-6.0	-6.0	-6.0	-6.0
Negative Supply Current (mA)	50	60	50	60

* Subject to change.

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Endwave Corporation
130 Baytech Drive
San Jose, CA 95134

Phone: 408-522-3100
Fax: 408-522-3197
www.endwave.com



Endwave is an
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