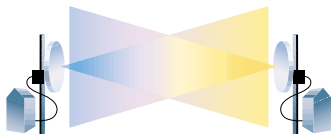
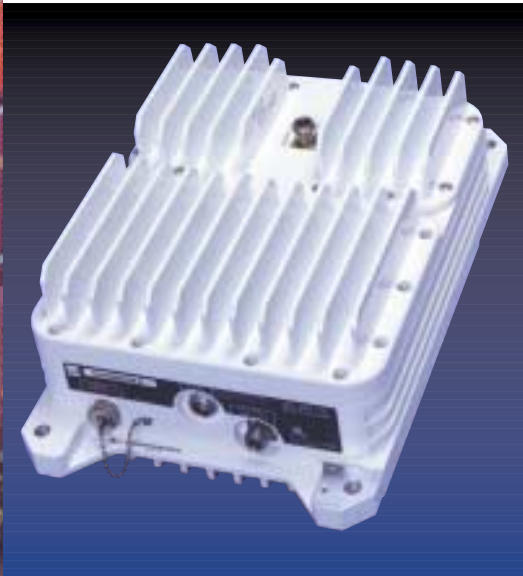


POINT-TO-POINT



# U-NII RF Head



## SX1115

**RF Head with  
SF1119/SF1120 Duplexers**

**5.8 GHz U-NII RF Outdoor Units  
Compatible with Cisco Systems  
uBR7246/7223  
Point-to-Point Router**

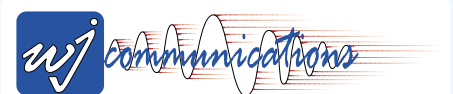
The SX1115 is compatible with Cisco's WT2700 Wireless Technology Suite for operation in the 5.8 GHz U-NII (Unlicensed National Information Infrastructure) band. The RF Head (referred to as an outdoor unit or ODU) interfaces between the uBR7246/7223 router and antenna. The Tx and Rx signals sent between the router and ODU operate at IF frequencies that are combined onto a single IF cable using frequency division duplexing (FDD) along with the 24 MHz reference signal and DC bias. The ODU then provides the conversions necessary to operate in the U-NII band.

The RF Head is fully compatible with Cisco's VOFDM (Vector Orthogonal Frequency Division Multiplex) modulation format and complies with CSA/FCC requirements. Duplexers are available to operate in two different subbands. The Tx/Rx frequencies may be interchanged in the field by reversing the duplexer connections.

A control cable also connects between the router and ODU and is used to configure and monitor status of the ODU. Tx power and Rx gain can also be adjusted in real time.

- ***+25 dBm Power Output***
- ***Interchangeable Duplexers***
- ***Rugged Construction***
- ***Easy Installation***
- ***Low Cost***

***The Communications Edge™***



Specifications		
Parameter	SX1115/SF1119	SX1115/SF1120
<b>RF Frequency<sup>1</sup></b>		
Low Band, MHz	5727-5751	5751-5775
High Band, MHz	5775-5799	5799-5823
<b>Tx RF Output</b>		
Power Output, dBm	+5 to +25	+5 to +25
Step Attenuator		
Range, dB min.	20	20
Accuracy, (25°C), dB max.	±1.0 dB at P <sub>TX</sub> = 25 to 21 dBm	±1.0 dB at P <sub>TX</sub> = 25 to 21 dBm
	±2.0 dB at P <sub>TX</sub> = 20 to 11 dBm	±2.0 dB at P <sub>TX</sub> = 20 to 11 dBm
	±3.0 dB at P <sub>TX</sub> = 10 to 5 dBm	±3.0 dB at P <sub>TX</sub> = 10 to 5 dBm
Step Size, dB	1	1
Flatness (any 12 MHz), dB (pk to pk), max.	1.0	1.0
VSWR, max.	2.0:1	2.0:1
Spurious		
Close-in (1kHz to 1 MHz), dBc	-50	-50
Inband Narrowband, dBc	-40	-40
Wideband, dBc	-44	-44
Out of Band Band Edge, dBm/MHz	-17	-17
>10 MHz from Band Edge, dBm/MHz	-27	-27
<b>Tx IF Input<sup>2</sup></b>		
Frequency, MHz	324±6	324±6
Power, dBm	-3 to -15	-3 to -15
Cable Compensation Attenuator		
Range, dB min.	12	12
Accuracy, dB max.	±1.0	±1.0
Step Size, dB	1	1
VSWR, max.	2.0:1	2.0:1
<b>Tx/Rx Synthesizers<sup>2</sup></b>		
Step Size (tunes over full operating band), MHz	3	3
Frequency Accuracy, ppm	±5	±5
Reference Frequency, MHz	24	24
<b>Rx RF Input<sup>2</sup></b>		
Noise Figure (25°C), dB max.	3.8	3.8
Input Power, dBm max.	-20	-20
Flatness, dB (pk to pk), max. (any 12 MHz)	1.5	1.5
VSWR, max.	1.7:1	1.7:1
Gain, dB	32±2	32±2
Gain Control Attenuator		
Range, dB min.	25	25
Accuracy, dB max.	±3	±3
<b>Rx Output</b>		
Frequency	420±6 MHz	420±6 MHz
VSWR, max.	1.75:1	1.75:1
Spurious		
Close-in (1kHz to 1 MHz), dBc	-50	-50
Narrowband, dBc max.	-50	-50
Wideband, dBc max.	-44	-44
<b>DC Input Power<sup>2</sup></b>		
Voltage (-48V nominal)	-33 to -60V	-33 to -60V
Current, max.	4.55A	4.55A
<b>Data Control<sup>3</sup></b>		
Transceivers	RS485	RS485
Rate	115 kbps	115 kbps
<b>Miscellaneous</b>		
Antenna Alignment Indicator	Mono Phono Jack	Mono Phono Jack
Temperature Indicator	-40 to 110°C	-40 to 110°C
RF Loopback		
Loopback, Tx output power	+5 dBm	+5 dBm
Rx output power	-35 to -55 dBm	-35 to -55 dBm
PLL Lock Detect	Provided	Provided
Operating Temperature Range	-40 to +60°C	-40 to +60°C
Enclosure	Type 4 enclosure	Type 4 enclosure
EMI Compliance	FCC Part 15	FCC Part 15
Safety	CUL/CSA US/Canada	CUL/CSA US/Canada
RF, IF Connectors	N-type	N-type
Control Connector	8 pin Lemo (supplied)	8 pin Lemo (supplied)

- Notes: 1. Rx Input and Tx Output may be interchanged between subband A and B by orientation of the duplexer on the RF Head.  
2. IF port contains the following signals: Tx IF Input, Rx IF Output, DC Input Power, Synthesizer Reference  
3. Data Control operates in accordance with Cisco Systems document "P2P RF Subsystem Control Interface and Design."



## Antenna Information

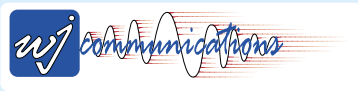
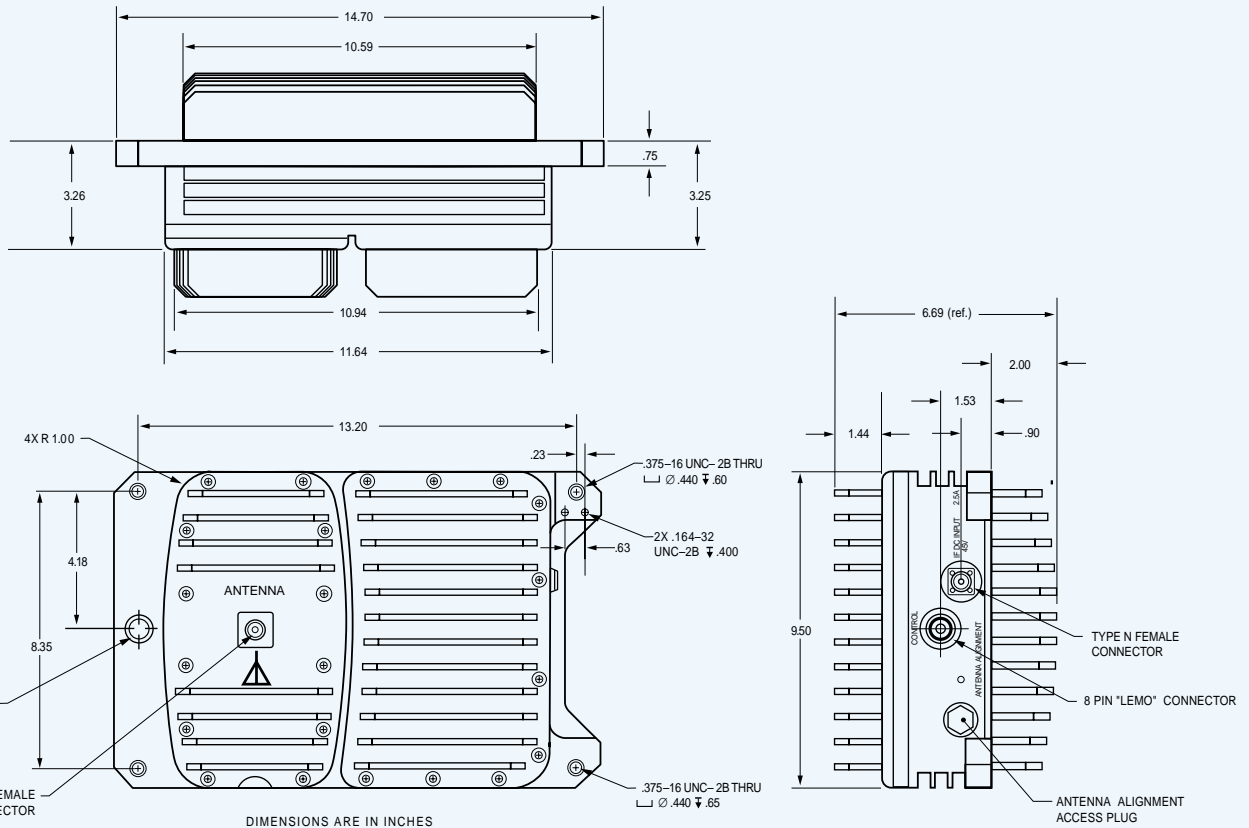
### MAXIMUM POWER, dBm, INTO ANTENNA\*

Gain/ Modulation BW	34 dBi 6 MHz	34 dBi 12 MHz	26 dBi 6 MHz	26 dBi 12 MHz	22 dBi 6 MHz	22 dBi 12 MHz	14 dBi 6 MHz	14 dBi 12 MHz	18.5 dBi 6 MHz	18.5 dBi 12 MHz
Power, dBm	14	17	22	25	25	25	25	25	25	25

### TYPICAL ANTENNAS\*

Gain	Description
22 dBi	Parabolic dish, 1 ft. diam.
34 dBi	Parabolic dish, 4 ft. diam.
26 dBi	Panel
14 dBi	Corner Reflector
18.5 dBi	Panel

\*Other antennas of similar type may also be used.



# U-NII RF Head

## SX1115

RF Head with  
SF1119/SF1120 Duplexers

5.8 GHz U-NII RF Outdoor Units  
Compatible with Cisco Systems  
uBR7246/7223  
Point-to-Point Router

### Ordering Information

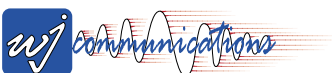
WJ Model No.	Description
SX1115	SX1115 RF head
SF1119	Duplexer
SF1120	Duplexer
MK1001	Mounting Kit*  <b>Mounting Kit includes</b> <ul style="list-style-type: none"> <li>■ 2-3/8 to 4-1/2 inch pole mounting hardware</li> <li>■ control port mating connector</li> </ul>

\*Mounting kit is provided with SX1115 RF Head. Installation instructions are also provided with the SX1115 unit.

Specifications and information are subject to change without notice.



*The Communications Edge™*



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