BTI WIRELESS

mBSC Catalog

Distributed Antenna System (DAS) Products

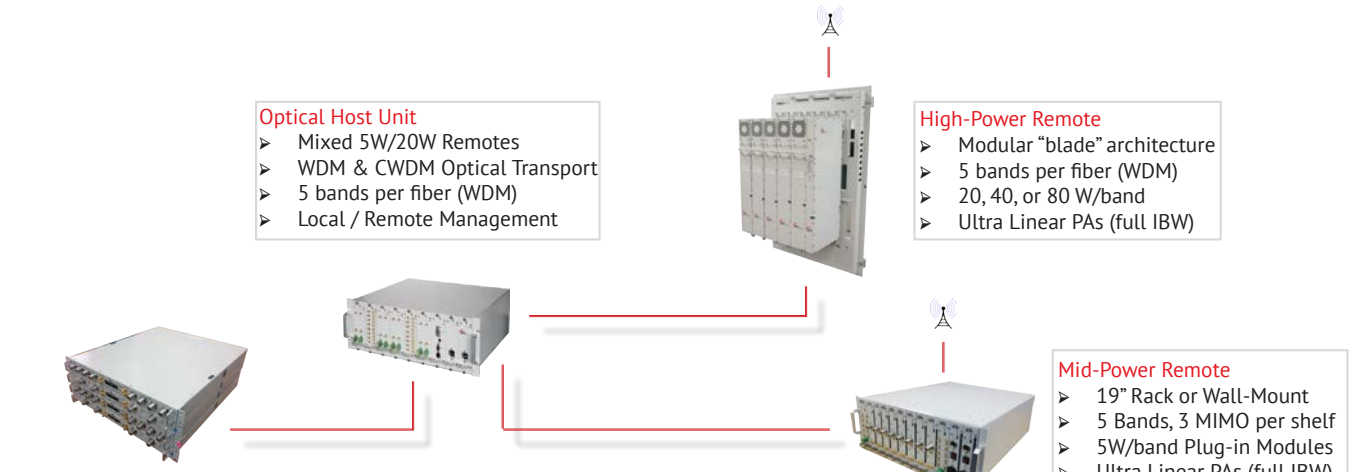
EXTEND COVERAGE | MAXIMIZE PERFORMACE | SAVE SPACE

Contents

mBSC Active DAS Solutions

With the burgeoning demand for seamless wireless everywhere, in-building solutions are, and will continue to be, an essential element of the network. BTI's mBSC DAS platform enables mixed deployment of high-power and mid-power remote nodes to support the complex environments unique to in-building and venue coverage.

BTI's highly linear remote nodes deliver unompromised performance with a modular design that allows you to deploy only what you need today, and inexpensively add on or upgrade as your needs require. BTI's amplifiers support full instantaneous bandwidth for all operating bands, significantly reducing deployment costs by enabling the amplifiers to be shared by all licensed operators in the network. With fully-rated output power up to 10W per band in our mid-power nodes, and up to 80W per band in our high-power nodes, there is enough capacity for the most challenging environments!



Optical Host Unit
- Mixed 5W/20W Remotes
- WDM & CWDM Optical Transport
- 5 bands per fiber (WDM)
- Local / Remote Management

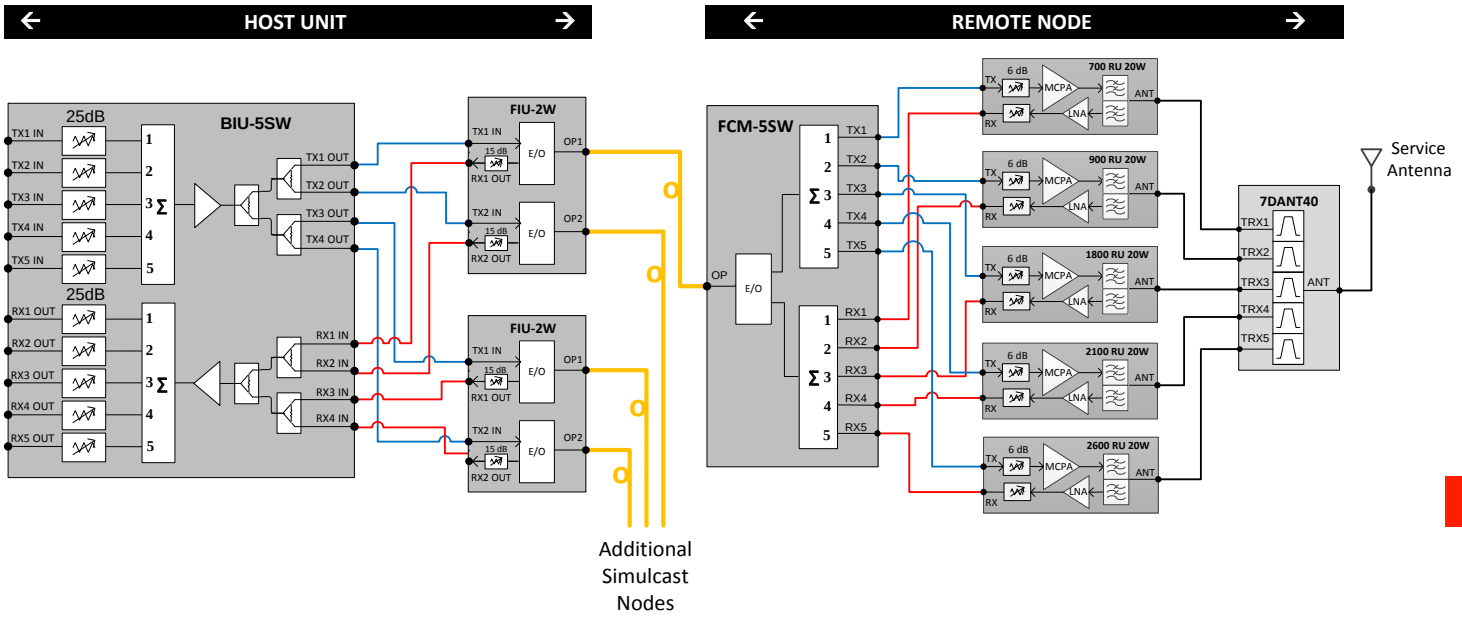
High-Power Remote
- Modular "blade" architecture
- 5 bands per fiber (WDM)
- 20, 40, or 80 W/band
- Ultra Linear PAs (full IBW)

Mid-Power Remote
- 19" Rack or Wall-Mount
- 5 Bands, 3 MIMO per shelf
- 5W/band Plug-in Modules
- Ultra Linear PAs (full IBW)

Point-of-Interface
- Multi-port/Multi-operator
- Input Power Monitoring
- Downlink Automatic Level Control

Sample Configuration

The following block diagram illustrates the interconnection of the basic elements that comprise the mBSC Active DAS solution from BTI Wireless:



SMH

mBSC9350-SMH-DC/AC-A

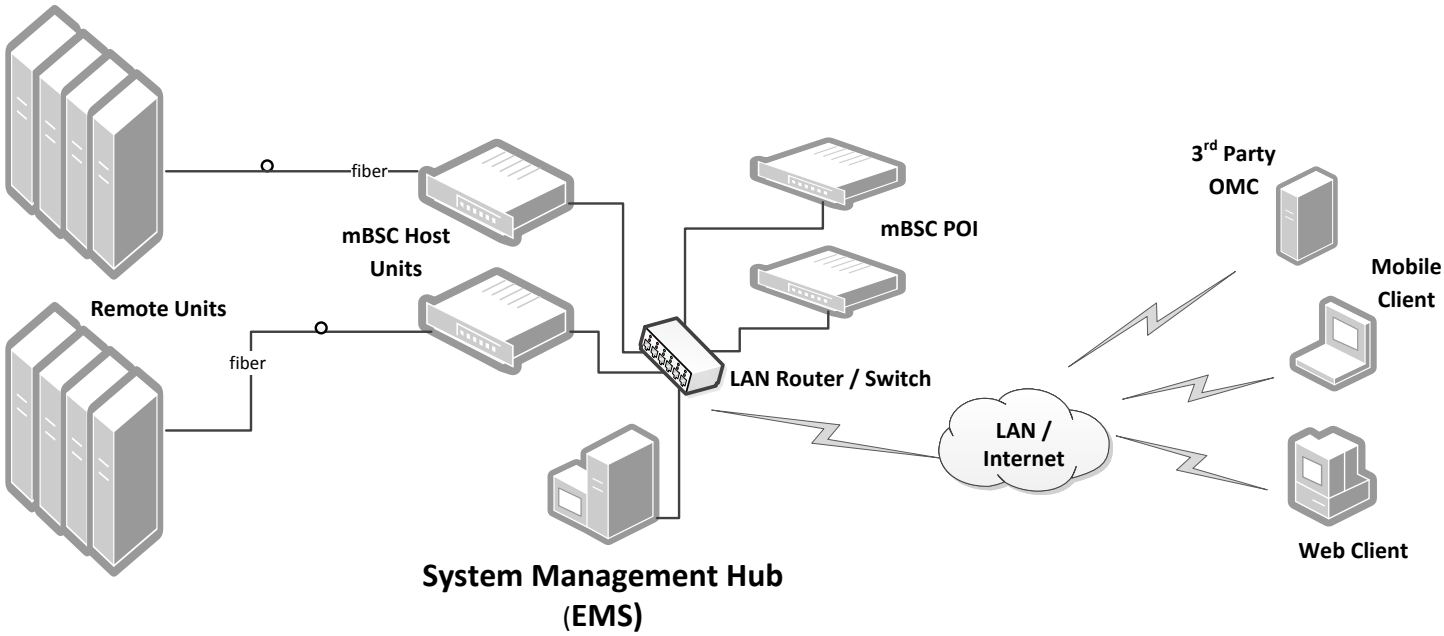
System Management Hub

The mBCS System Management Hub (SMH) is a component of the mBSC DAS Element System (EMS) which provides centralized access for configuration and monitoring of mBSC DAS equipment. The SMH can be co-located in the head-end room and used to manage a single site, or it can be located in a centralized location and interconnected to one or more remote sites containing mBSC DAS equipment.

Order SKU	Description
mBSC9350-SMH-DC-A	SMH, DC power option
mBSC9350-SMH-AC-A	SMH, AC power option

Specifications	
Power Supply	-48 ± 20% VDC or 110 ~ 220 VAC ± 20%
Dimension	1 U 19" rack
Weight	5.12 kgs
Local Interface	Dual USB/PS2 for Keyboard / Mouse VGA for monitor
Network Interface	Dual RJ-45 Ethernet for LAN and WAN
DAS Management	SNMP V1, 2, 3

Note: Actual model delivered may vary slightly from this picture.



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POI

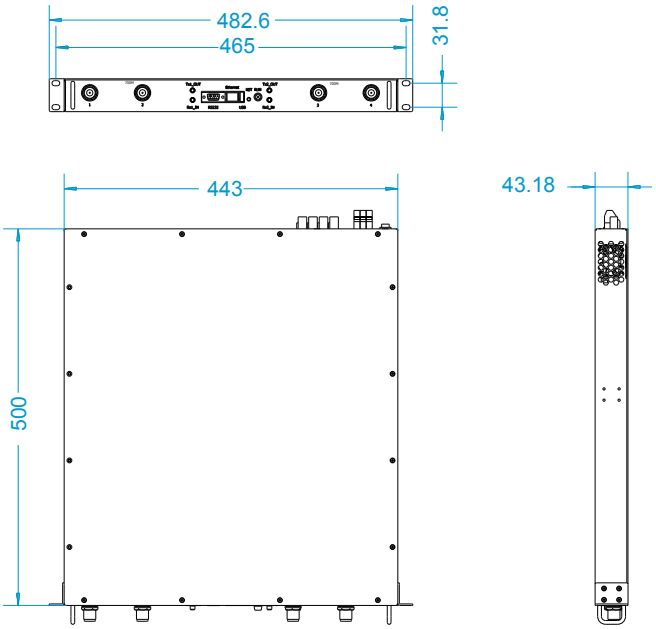
POI1427-0700-4P1M

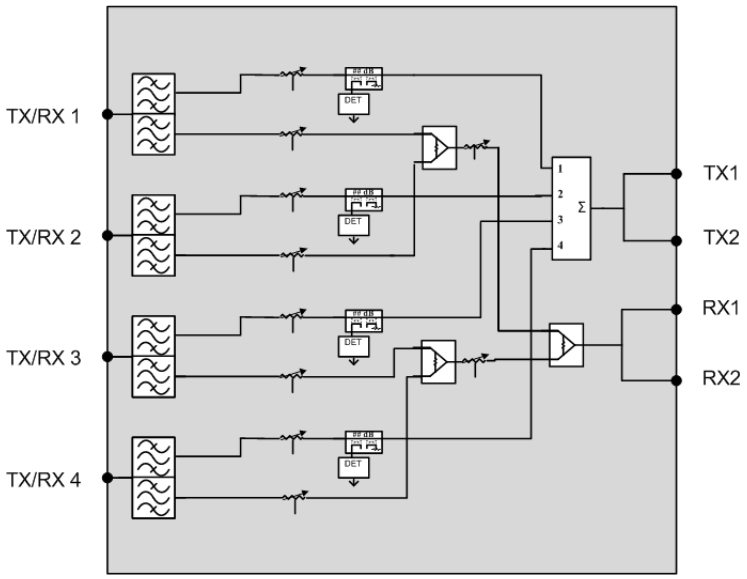
4 Port POI Single Band, 1U, 1-sector, Point Of Interface

The mBSC POI is a BTS signal conditioning device provided as an optional front-end for the mBSC optical Host Unit. As the initial point-of-interface in the mBSC solution, the POI accepts high-power duplex RF signals from multiple network operators and conditions the signal for the mid-power simplex interface of the optical Host Unit. The POI also provides independent downlink monitoring on each input port with Automatic Level Control to ensure that the intended signal balance is maintained in a shared amplifier, multi-operator installation.

Order SKU	Description	
POI1427-0700-4P1M	DL: 758-803 MHz	UL: 703-748 MHz

Specifications	
Power Consumption	< 30 W
Power Supply	-48 ± 20% VDC
Dimension (H x W x D)	1 U 19" rack 43.18 x 442.97 x 482.60 (mm)
Weight	13.5 kgs
Maximum Input Power	+43 dBm from the base station per input
Minimum Insertion Loss	40 dB for downlink path 40 dB for uplink path
Adjustable Attenuation Range	0-15 dB in 0.5 dB steps
ALC (downlink)	0-10 dB in 0.5 dB steps
Flatness	≤ 1.5 dB
TX/RX Band Rejection	≥ 70 dB
Return Loss	≥ 14 dB
PIM	-140 dBc (-100 dBm) @ 2 x 40 dBm
RF Interface	BTS Interface: Type N Female Host Unit Interface: SMA Female
Management	RJ45 Ethernet (Remote Network, Local GUI) SNMPV2
Operating Temperature	-10˚C ~ +45˚C





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POI1427-xxxx-8P1M

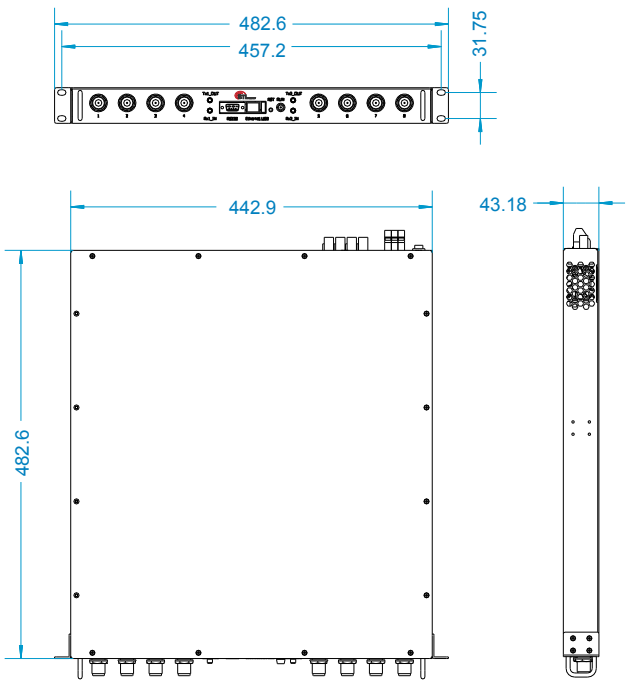
xxxx=0850/0900/1800/2100/2300/2600

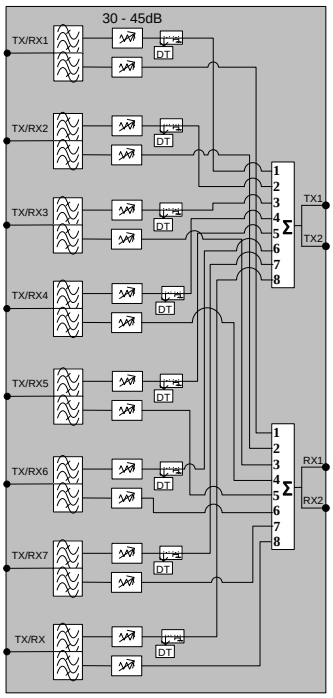
8 Port POI Single Band, 1U, 1-sector, Point of Interface

The mBSC POI is a BTS signal conditioning device provided as an optional front-end for the mBSC optical Host Unit. As the initial point-of-interface in the mBSC solution, the POI accepts high-power duplex RF signals from multiple network operators and conditions the signal for the mid-power simplex interface of the optical Host Unit. The POI also provides independent downlink monitoring on each input port with Automatic Level Control to ensure that the intended signal balance is maintained in a shared amplifier, multi-operator installation.

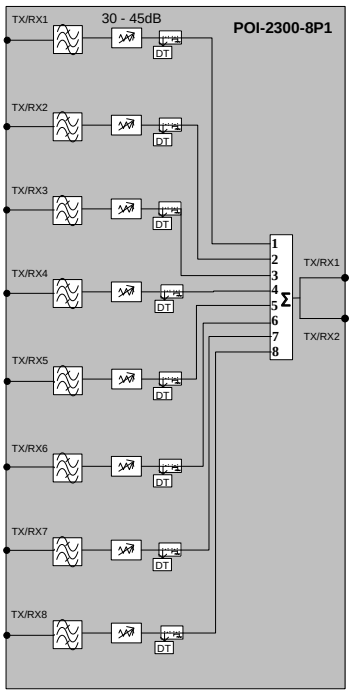
Order SKU	Description	
POI1427-0850-8P1M	DL: 869-894 MHz	UL: 824-849 MHz
POI1427-0900-8P1M	DL: 930-960 MHz	UL: 885-915 MHz
POI1427-1800-8P1M	DL: 1805-1880 MHz	UL: 1710-1785 MHz
POI1427-2100-8P1M	DL: 2110-2170 MHz	UL: 1920-1980 MHz
POI1427-2300-8P1M	2300-2400 MHz	
POI1427-2600-8P1M	DL: 2620-2690 MHz	UL: 2500-2570 MHz

Specifications	
Power Consumption	< 30 W
Power Supply	-48 ± 20% VDC
Dimension (H x W x D)	1 U 19" rack 43.18 x 442.97 x 482.60 (mm)
Weight	13.5 kgs
Maximum Input Power	+43 dBm from the base station per input
Minimum Insertion Loss	40 dB for downlink path 40 dB for uplink path
Adjustable Attenuation Range	0-15 dB in 0.5 dB steps
ALC (downlink)	0-10 dB in 0.5 dB steps
Flatness	⩽ 1.5 dB
TX/RX Band Rejection	⩾ 70 dB
Return Loss	⩾ 14 dB
PIM	-140 dBc (-100 dBm) @ 2 x 40 dBm
RF Interface	BTS Interface: Type N Female Host Unit Interface: SMA Female
Management	RJ45 Ethernet (Remote Network, Local GUI) SNMPV2
Operating Temperature	-10°C ~ +45°C





POI1427-xxxx-8P1M
8-Port SISO



POI1427-xxxx-8P1M
8-Port SISO (TDD)

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POI

POI1427-xxxx-8P2M

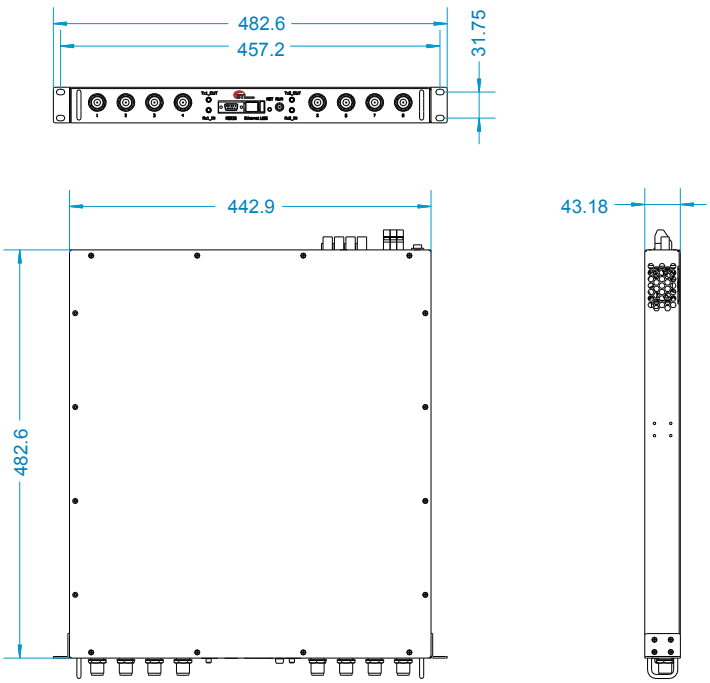
xxxx=0850/0900/1800/2100/2300/2600

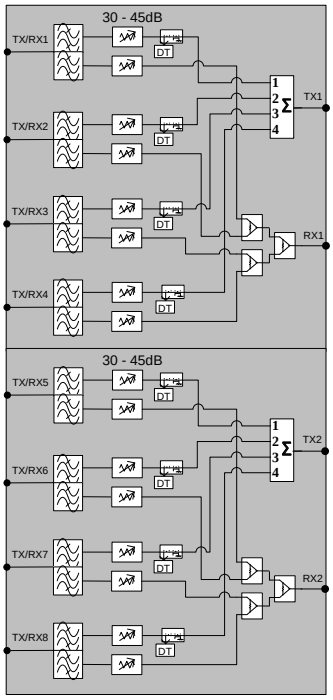
8 Port POI Dual Band, 1U, 2-sector, Point of Interface

The mBSC POI is a BTS signal conditioning device provided as an optional front-end for the mBSC optical Host Unit. As the initial point-of-interface in the mBSC solution, the POI accepts high-power duplex RF signals from multiple network operators and conditions the signal for the mid-power simplex interface of the optical Host Unit. The POI also provides independent downlink monitoring on each input port with Automatic Level Control to ensure that the intended signal balance is maintained in a shared amplifier, multi-operator installation.

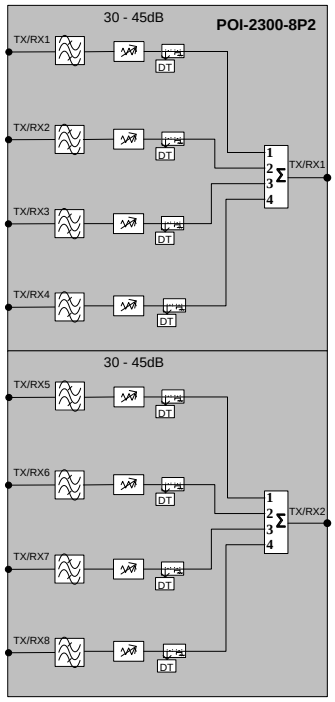
Order SKU	Description	
POI1427-0850-8P2M	DL: 869-894 MHz	UL: 824-849 MHz
POI1427-0900-8P2M	DL: 930-960 MHz	UL: 885-915 MHz
POI1427-1800-8P2M	DL: 1805-1880 MHz	UL: 1710-1785 MHz
POI1427-2100-8P2M	DL: 2110-2170 MHz	UL: 1920-1980 MHz
POI1427-2300-8P2M	2300-2400 MHz	
POI1427-2600-8P2M	DL: 2620-2690 MHz	UL: 2500-2570 MHz

Specifications	
Power Consumption	< 30 W
Power Supply	-48 ± 20% VDC
Dimension (H x W x D)	1 U 19" rack 43.18 x 442.97 x 482.60 (mm)
Weight	13.5 kgs
Maximum Input Power	+43 dBm from the base station per input
Minimum Insertion Loss	40 dB for downlink path 40 dB for uplink path
Adjustable Attenuation Range	0-15 dB in 0.5 dB steps
ALC (downlink)	0-10 dB in 0.5 dB steps
Flatness	⩽ 1.5 dB
TX/RX Band Rejection	⩾ 70 dB
Return Loss	⩾ 14 dB
PIM	-140 dBc (-100 dBm) @ 2 x 40 dBm
RF Interface	BTS Interface: Type N Female Host Unit Interface: SMA Female
Management	RJ45 Ethernet (Remote Network, Local GUI) SNMPV2
Operating Temperature	-10˚C ~ +45˚C





POI1427-xxxx-8P2M
2 x 4-Port MIMO



POI1427-xxxx-8P2M
2 x 4-Port MIMO (TDD)

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HOST UNIT

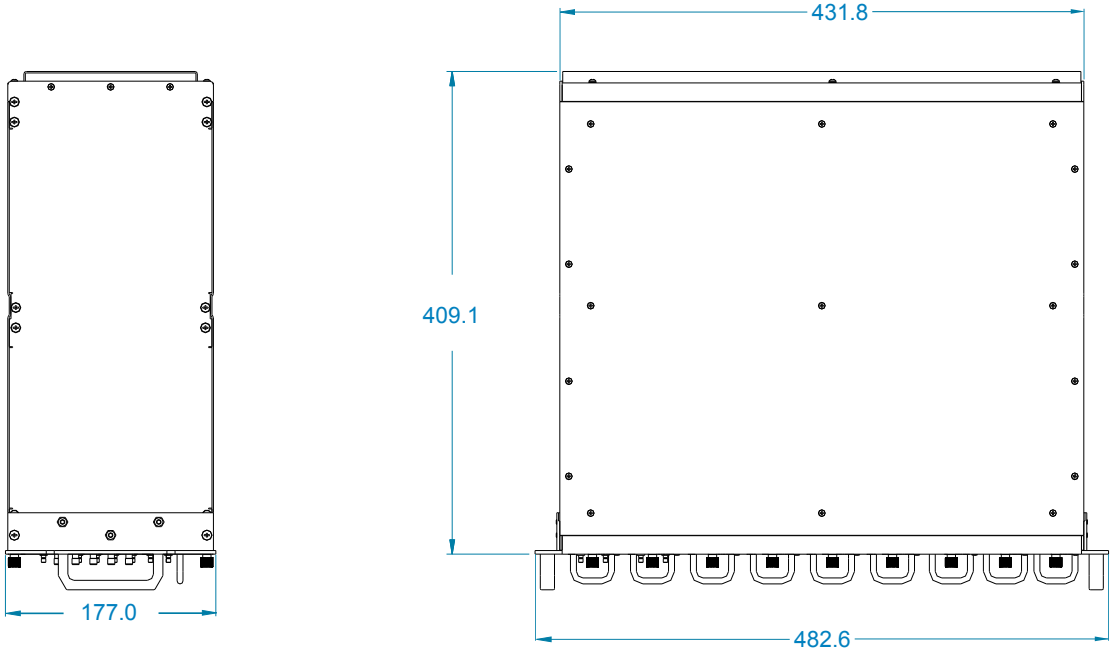
mBSC1427-HU-DC

Host Unit Shelf (HU) -48 ± 20% VDC, 1 RCU + 2 PSU

The Host Unit is a standard 19" wide, 4U rack-mounted shelf, which serves as the BTS servicing unit for the mBSC system. Consisting of 9 slots numbered from left to right: 1 through 9. Slots 7 through 9 are dedicated and specifically keyed for the Remote Control Unit (RCU) and two redundant Power Supply Units (PSUs). The remaining 6 slots in the Host Unit house the BTS Interface Units (BIU) and Fiber Interface Units (FIU) or TDD Sync Unit (TSU). The Host Unit allows any combination of BIU,FIU, and TSU modules, up to six in total.

Order SKU	Description
mBSC1427-HU-DC	Host Unit Shelf, -48 ± 20% VDC, includes 1 RCU and 2 PSUs

Specifications	
Max No. of Plug-in Modules	3 dedicated slots for two redundant PSU and one RCU 6 multi-purpose slots for any combination of BIU and FIU
Power Supply	-48 ± 20% VDC
Power Consumption	< 100 W per fully populated shelf
Dimension (H x W x D)	19" rack, 177 x 482.6 x 409.1 (mm)
Weight	26.76 kgs with full configuration
Ingress Protection	IP40
Operating Temperature	-10˚C ~ +45˚C
RCU Interfaces	RJ45 Ethernet (Remote Network, Local GUI) Mini USB (Local GUI) DB-9 Debug Port
Network Management	SNMP V2



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HOST UNIT

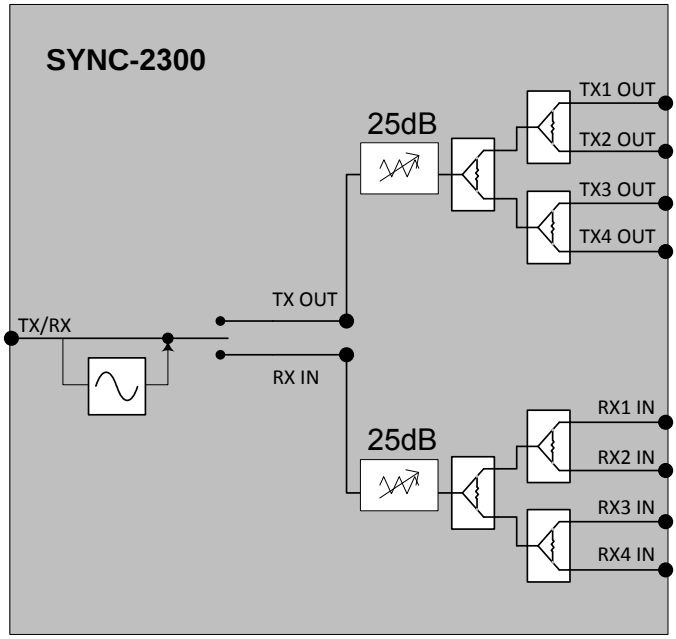
mBSC1430-SYNC-2300

TDD Sync Unit Module (TSU)

The TDD Sync Unit Module is required for DAS systems incorporating a TDD Remote Unit Amplifier. The TDD Sync Unit Module analyzes the incoming TDD signal from the BTS and extracts timing information to accurately identify the transition between Downlink and Uplink transmissions. This timing information is delivered to the Remote Node for timing control. The TDD Sync Unit Module is frequency-specific and must be ordered for the desired band. The TDD Sync Unit Module can directly connect to a FIU module, or it can be combined with other signals with a BIU.

Order SKU	Description
mBSC1430-SYNC-2300	TDD Sync Unit Module (TSU)

Specifications	
RF Interface	QMA connector for RF Interface 1 DL/UL duplex RF interface port to BTS 4 DL/UL simplex BIU interface ports
Frequency Range	2300-2400 MHz
Input Power level	< 0 dBm composite per Input
Input / Output VSWR	≤ 1.5:1
Adjustable Attenuation Range	0-25 dB per band (in 0.5 dB steps), Downlink and Uplink



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HOST UNIT

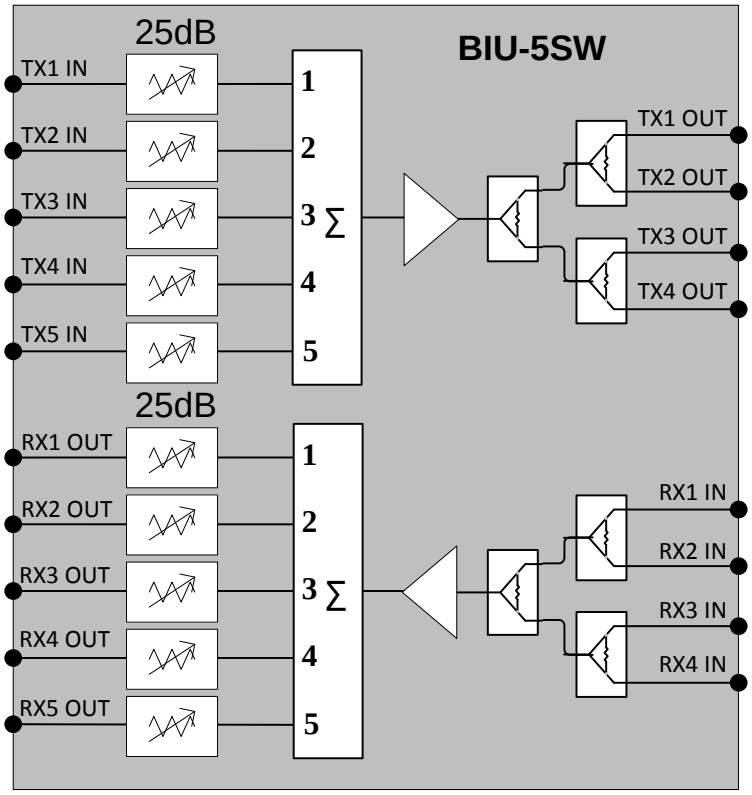
mBSC1430-BIU-5SW

BTS Interface Unit Module (BIU) 5-band Input, Simplex

The BTS Interface Unit (BIU) provides a simplex interface into the mBSC system for interconnection with the BTS RF interface. The BIU combines up to 5 bands of RF downlink signal into a composite signal, which is then split across four TX out connectors for delivery to up to four fiber modules (RF simulcast). In the uplink path the BIU combines up to four separate multi-band uplink signals for distribution to the BTS receivers.

Order SKU	Description
mBSC1430-BIU-5SW	BIU, Module, 5-band Input, Simplex

Specifications	
RF Interface	QMA connector for RF Interface 1 DL and UL BTS interface port per band (5 bands supported) 4 DL and UL FIU interface ports (supports up to 4:1 simulcast)
Frequency Range	698 ~ 2700 MHz
Input Power level	< 0 dBm composite per Input
Input / Output VSWR	≤ 1.5:1
Adjustable Attenuation Range	0-25 dB per band (in 0.5 dB steps), Downlink and Uplink



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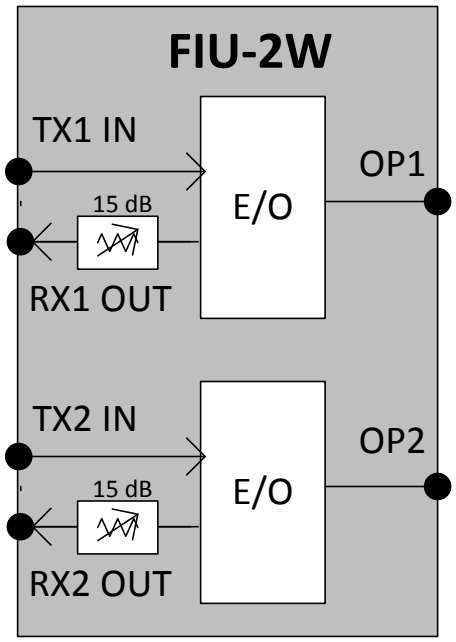
mBSC1430-FIU-2W

Fiber Interface Unit Module (FIU) Dual WDM Fiber

The Fiber Interface Unit (FIU) provides the electrical-to-optical conversion of RF signals exchanged between the Host Unit and the Remote Node. The mBSC1430-FIU-2W contains 2 independent optical modules supporting bi-directional WDM optical transmission. The FIU is compatible with the mBSC high-power and mid-power remote nodes.

Order SKU	Description
mBSC1430-FIU-2W	Dual WDM Fiber

Specifications	
Optical Wavelength	DL: 1310 ± 20 nm UL: 1550 ± 20 nm
Optical Output Power	+4 dBm ± 2 dB
Optical Link Budget	10 dBo
Optical Input Power	-12 ~ +4 dBm
Fiber Interface	E2000/APC - Simplex, Single-Mode Fiber 2 independent WDM links per FIU (supports 2 Remote Nodes)
Frequency Range	698 ~ 2700 MHz
RF Interface	QMA: 1 UL + 1 DL per fiber link QMA: 1 UL + 1 DL couple port per fiber link
Couple Port	-30 dB
VSWR	⩽ 1.4:1
RF Isolation	⩾ 60 dB
Delay	60 ns



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REMOTE NODE

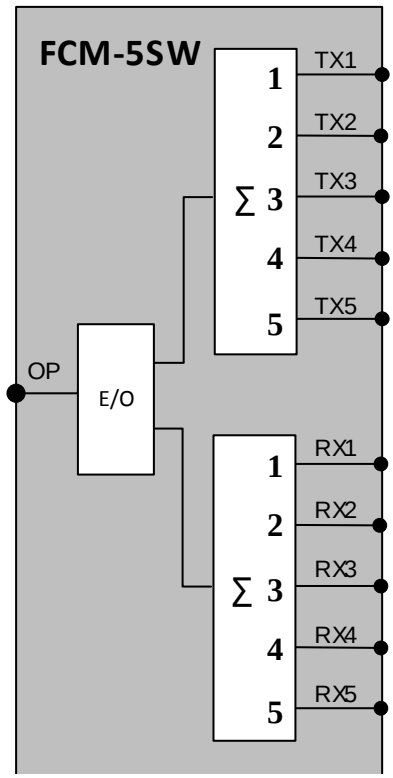
mBSC1430-FCM-5SW

Fiber Combiner Module (FCM) WDM, 5 bands, SISO

The Fiber Combiner Module (FCM) provides optical-to-RF conversion at the Remote Node. The FCM is a standalone module which occupies one-half of a slot within the Remote Node enclosure. The FCM receives the optical signal from the Host Unit FIU, and distributes simplex RF to up to five inter-connected Remote Units. Each Simplex RF port is a wideband port - a frequency-specific RU can be connected to any port on the FCM. For MIMO connections two FCMs are required.

Order SKU	Description
mBSC1430-FCM-5SW	Fiber Combiner Module, WDM, 5 bands, SISO

Specifications	
Operating Temperature	-25˚C ~ +55˚C
Dimension (H x W x D)	620 x 42 x 250 (mm)
Weight	⩽ 9.5 kgs
Configuration	Supports any 5 bands
Isolation	Band Isolation: ⩾ 35 dB Tx/Rx Isolation: ⩾ 70 dB
RF Interface	SMA Female
Control Interface	RJ-45 Ethernet (Local GUI) Form A/B Dry Contact Inputs
Optical Link Budget	10 dBo
Optical Wavelength	DL: 1310 ± 20 nm UL: 1550 ± 20 nm
Optical Connector	E2000/APC (Simplex, Single-Mode Fiber)
Power Consumption	< 30 W
Power Supply	110 ~ 220 ± 20% VAC
Safety	CSA, UL



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REMOTE NODE

mBSCxxxx-020-RUC01

xxxx=0700/0850/0900/1800/2100/2300/2600

20 W Remote Unit (RU) Band Specific, Bi-Directional Amplifier

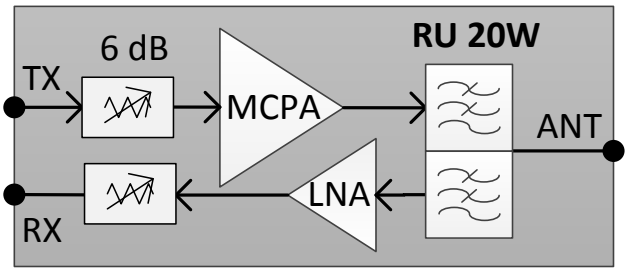
The mBSC Remote Unit (RU) is a high-power bi-directional amplifier which provides forward and reverse channel amplification within a single licensed operating band. The RU is frequency band specific and available in downlink output power levels of 20W, 40W and 80W (depending on the operating band). Each RU is packaged as a standalone single-band unit and occupies one full slot within the Remote Node enclosure. RU enclosures are rated for outdoor use without any additional protection (IP65) and supports full instantaneous bandwidth operation with mixed-mode RF signals.

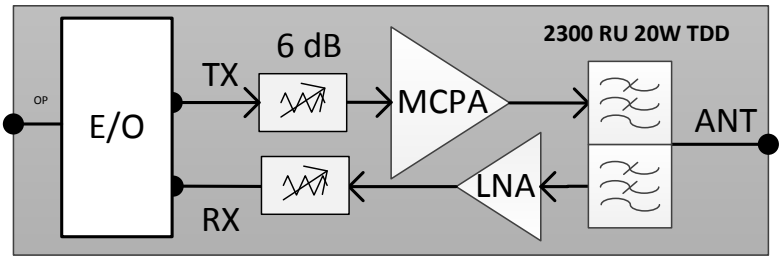
Order SKU	Description	
mBSC0700-020-RUC01	DL: 758-803 MHz	UL: 703-748 MHz
mBSC0850-020-RUC01	DL: 869-890 MHz	UL: 824-845 MHz
mBSC0900-020-RUC01	DL: 935-960 MHz	UL: 891-915 MHz
mBSC1800-020-RUC01	DL: 1805-1880 MHz	UL: 1710-1785 MHz
mBSC2100-020-RUC01	DL: 2110-2170 MHz	UL: 1920-1980 MHz
mBSC2300-020-RUC01	2300-2400 MHz TDD	
mBSC2600-020-RUC01	DL: 2620-2690 MHz	UL: 2500-2570 MHz

Specifications	
Operating Temperature	-25 ~ +55˚C (-40˚C Coldstart)
Dimension (H x W x D)	700/850/900/2300 MHz: 720.12 x 84.5 x 250 (mm) 1800/2100/2600 MHz: 620.15 x 84.5 x 250 (mm)
Weight (per RU)	700/1800/2100/2600 MHz: 17 kgs 850/900 MHz: 19 kgs 2300 MHz: 23 kgs
Fan Acoustic Noise (per RU)	< 44 dBA (at 1 meter)
RF Interface to FCM **except 2300 TDD*	SMA Female
Antenna Port	7/16 DIN Female
Power Supply	110 ~ 220 ± 20% VAC
Power Consumption	350 W (max)
Ingress Protection	IP65
Adjustable Attenuation Range*	0-6 dB per band (in 0.5 dB steps), Downlink and Uplink

**contact BTI Support if a wider attenuation adjustment range is required*

2300 TDD Remote Unit Only	
Optical Link Budget	10 dBo
Optical Wavelength	DL: 1310 ± 20 nm UL: 1550 ± 20 nm
Optical Connector	E2000/APC





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REMOTE NODE

mBSCxxxx-040-RUC01

xxxx=0700/0850/0900/1800/2100/2300/2600

40 W Remote Unit (RU) Band Specific, Bi-Directional Amplifier

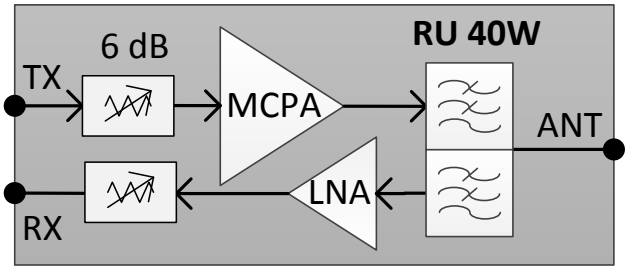
The mBSC Remote Unit (RU) is a high-power bi-directional amplifier which provides forward and reverse channel amplification within a single licensed operating band. The RU is frequency band specific and available in downlink output power levels of 20W, 40W and 80W (depending on the operating band). Each RU is packaged as a standalone single-band unit and occupies one full slot within the Remote Node enclosure. RU enclosures are rated for outdoor use without any additional protection (IP65) and supports full instantaneous bandwidth operation with mixed-mode RF signals.

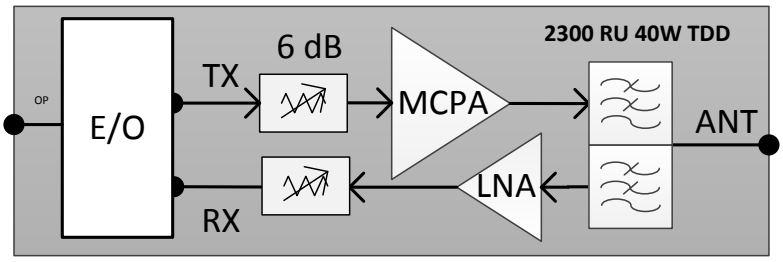
Order SKU	Description	
mBSC0700-040-RUC01	DL: 758-803 MHz	UL: 703-748 MHz
mBSC0850-040-RUC01	DL: 869-890 MHz	UL: 824-845 MHz
mBSC0900-040-RUC01	DL: 935-960 MHz	UL: 891-915 MHz
mBSC1800-040-RUC01	DL: 1805-1880 MHz	UL: 1710-1785 MHz
mBSC2100-040-RUC01	DL: 2110-2170 MHz	UL: 1920-1980 MHz
mBSC2300-040-RUC01	2300-2400 MHz TDD	
mBSC2600-040-RUC01	DL: 2620-2690 MHz	UL: 2500-2570 MHz

Specifications	
Operating Temperature	-25 ~ +55°C (-40°C Coldstart)
Dimension (H x W x D)	700/850/900/2300 MHz: 720.12 x 84.5 x 250 (mm) 1800/2100/2600 MHz: 620.15 x 84.5 x 250 (mm)
Weight (per RU)	700/1800/2100/2600 MHz: 17 kgs 850/900 MHz: 19 kgs 2300 MHz: 23 kgs
Fan Acoustic Noise (per RU)	< 44 dBA (at 1 meter)
RF Interface to FCM **except 2300 TDD*	SMA Female
Antenna Port	7/16 DIN Female
Power Supply	110 ~ 220 ± 20% VAC
Power Consumption	500 W (max)
Ingress Protection	IP65
Adjustable Attenuation Range*	0-6 dB per band (in 0.5 dB steps), Downlink and Uplink

**contact BTI Support if a wider attenuation adjustment range is required*

2300 TDD Remote Unit Only	
Optical Link Budget	10 dBo
Optical Wavelength	DL: 1310 ± 20 nm UL: 1550 ± 20 nm
Optical Connector	E2000/APC





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REMOTE NODE

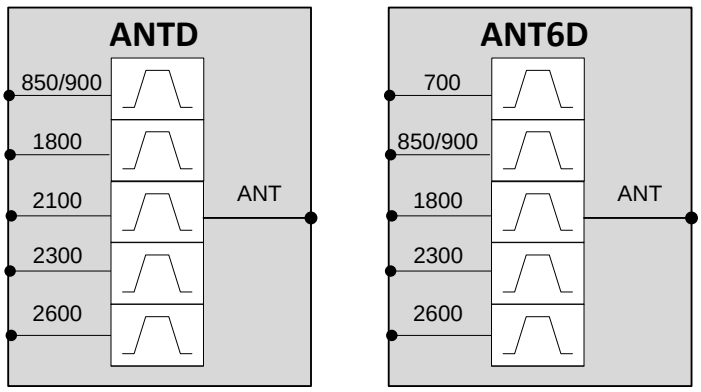
mBSC1427-FCMAU-ANTD/6D

6-Band / 5 Port Antenna Combiner

The Antenna Combiner Module (ANTD/6D) is a high-power, passive antenna combiner which combines up to 6 bands of Duplex RF signals from individual Remote Node bi-directional amplifiers into a single composite duplex signal for delivery to the Service Antenna.

Order SKU	Description
mBSC1427-FCMAU-ANTD mBSC1427-FCMAU-ANT6D	6-Band / 5 Port Antenna Combiner, SISO, Duplex

Specifications	Port 1	Port 2	Port 3	Port 4	Port 5
Frequency Band (MHz)	ANTD: 850/900 MHz ANT6D: 700 MHz	ANTD: 1800 MHz ANT6D: 850/900 MHz	ANTD: 2100 MHz ANT6D: 1800 MHz	ANTD: 2300 MHz ANT6D: 2300 MHz	ANTD: 2600 MHz ANT6D: 2600 MHz
Frequency Range (MHz)	ANTD: 824-960 ANT6D: 703-803	ANTD: 1710-1880 ANT6D: 824-960	ANTD: 1920-2170 ANT6D: 1710-1880	ANTD: 2300-2400 ANT6D: 2300-2400	ANTD: 2500-2690 ANT6D: 2500-2690
Insertion Loss	< 1.0 dB	< 1.0 dB	< 1.0 dB	< 1.0 dB	< 1.0 dB
Return Loss	⩾ 18 dB min	⩾ 18 dB min	⩾ 18 dB min	⩾ 18 dB min	⩾ 18 dB min
Isolation	⩾ 25 dB between each band				
Power Handling	100 W (avg) / 1000 W (peak) each band				
IMD	⩽ -100 dBm @ 2 * 43 dBm				
Impedance	50 Ω				
Operating Temperature	-20˚C ~ +65˚C				
Dimensions (H x W x D)	380 x 83 x 250 (mm)				
RF Interface	7/16 DIN Female				



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REMOTE NODE

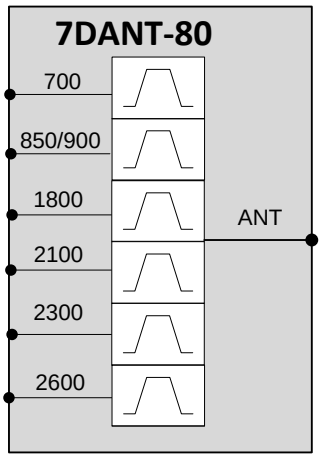
mBSC1430-7DANT-80

7-Band / 6 Port Antenna Combiner

The Antenna Combiner Module (7DANT-80) is a high-power, passive antenna combiner which combines up to 7 bands of Duplex RF signals from individual Remote Node bi-directional amplifiers into a single composite duplex signal for delivery to the Service Antenna.

Order SKU	Description
mBSC1430-7DANT-80	7-Band / 6 Port Antenna Combiner, SISO, Duplex, 80 W

Specifications	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6
Frequency Band (MHz)	700 MHz	850/900 MHz	1800 MHz	2100 MHz	2300 MHz	2600 MHz
Frequency Range (MHz)	703-803	824-960	1710-1880	1920-2170	2300-2400	2500-2690
Insertion Loss	< 1.0 dB	< 1.0 dB	< 1.0 dB	< 1.0 dB	< 1.0 dB	< 1.0 dB
Return Loss	≥ 18 dB min	≥ 18 dB min	≥ 18 dB min	≥ 18 dB min	≥ 18 dB min	≥ 18 dB min
Isolation	≥ 25 dB between each band					
Power Handling	100 W (avg) / 1000 W (peak) each band					
IMD	≤ -110 dBm @ 2 * 43 dBm					
Impedance	50 Ω					
Operating Temperature	-20˚C ~ +65˚C					
Dimensions (H x W x D)	250 x 243 x 60 (mm)					
RF Connector	7/16 DIN Female					



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REMOTE NODE

mBSC1427-Mount-xS_W
mBSC1427-Mount-xS_P
x = 3/4/5/6/7 Slots

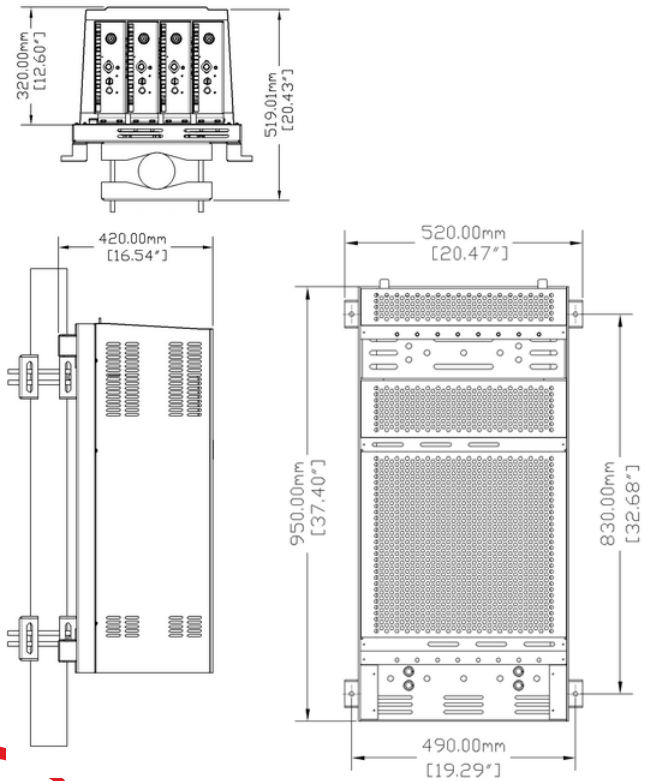
Multi-Slot Bracket & Shroud Wall-mount or pole mount

The Remote Node bracket and shroud provides mechanical mounting for the Remote Node equipment (FCM + RUs). The back bracket is available in wall-mount or pipe-mount configurations, and in 3 through 7 slot sizes (custom sizes are also available). A 4-slot bracket will support up to 4 modules (one slot per RU, and one-half slot per FCM). The shroud is a thin cover which provides physical concealment of the components and cables and in outdoor locations additional solar protection.

SKU	Slots	Dimensions	Weight (Panel & Shroud)	Weight (Pole Clamp)
mBSC1427-Mount-3S_P/W	3	Panel: 950 x 430 x 100 (mm) Shroud: 951.2 x 370 x 320 (mm) Pole Mounting Clamp: 120 x 280 x 50 (mm)	32 kgs	9.3 kgs
mBSC1427-Mount-4S_P/W	4	Panel: 950 x 520 x 100 (mm) Shroud: 951.2 x 460 x 320 (mm) Pole Mounting Clamp: 120 x 300 x 50 (mm)	35.5 kgs	9.9 kgs
mBSC1427-Mount-5S_P/W	5	Panel: 950 x 610 x 100 (mm) Shroud: 951.2 x 550 x 320 (mm) Pole Mounting Clamp: 120 x 300 x 50 (mm)	39.5 kgs	10 kgs
mBSC1427-Mount-6S_P/W	6	Panel: 950 x 690 x 100 (mm) Shroud: 951.2 x 630 x 320 (mm) Pole Mounting Clamp: 120 x 300 x 50 (mm)	41.1 kgs	9.9 kgs
mBSC1427-Mount-7S_P/W	7	Panel: 950 x 810 x 100 (mm) Shroud: 951.2 x 750 x 320 (mm) Pole Mounting Clamp: 120 x 300 x 50 (mm)	44.6 kgs	10 kgs

*Min/Max Pole Diameter - 60/225 mm

Example - mBSC1427-Mount-4P



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REMOTE NODE

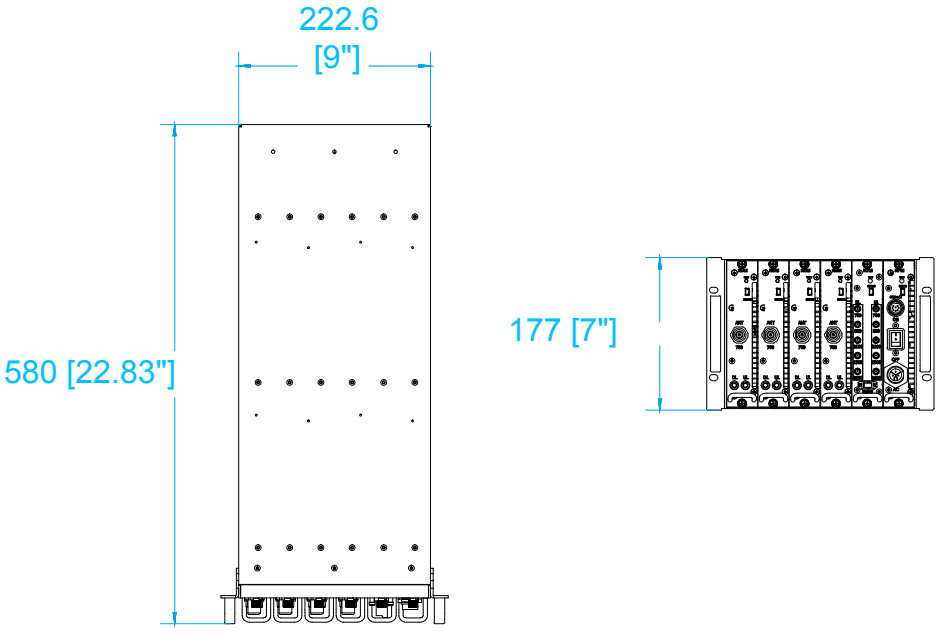
mBSC1426-RACK05-DC/AC

5-Slot Rack 9" Shelf for mid-power Remote Node

The mBSC1426-RACK05-DC/AC is a 177 x 222.6 x 580 (mm) wall-mount enclosure for mid-power Remote Node equipment (see mBSC1426-RACK05-WM for mounting details). The mBSC1426-RACK05-DC/AC supports 1 mandatory Remote Power Module (RPM) and 5 line-card slots which can be used for any combination of Remote Transport Modules (RTM) for fiber connections, or Remote Unit Modules (RUM) for bi-directional amplification. The mBSC1426-RACK05-DC/AC is rated for indoor applications.

Order SKU	Description
mBSC1426-RACK05-DC	9" Rack + 1 DC Remote Power Module (RPM)
mBSC1426-RACK05-AC	9" Rack + 1 AC Remote Power Module (RPM)

Specifications	
Max No. of Plug-in Modules	1 dedicated slot for RPM (AC or DC power option) 5 multi-purpose slots for any combination of 1 RTM and 4 RUMs
Power Supply	-48 ± 20% VDC or 110 ~ 220 VAC ± 20%
Power Consumption	< 300 W per fully populated shelf
Dimension (H x W x D)	9" rack, 177 x 222.8 x 580 (mm)
Weight	< 29 kgs with full configuration
Ingress Protection	IP40
Operating Temperature	-10°C ~ +45°C
Monitoring Interface	4 Form-A/B external alarm inputs



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REMOTE NODE

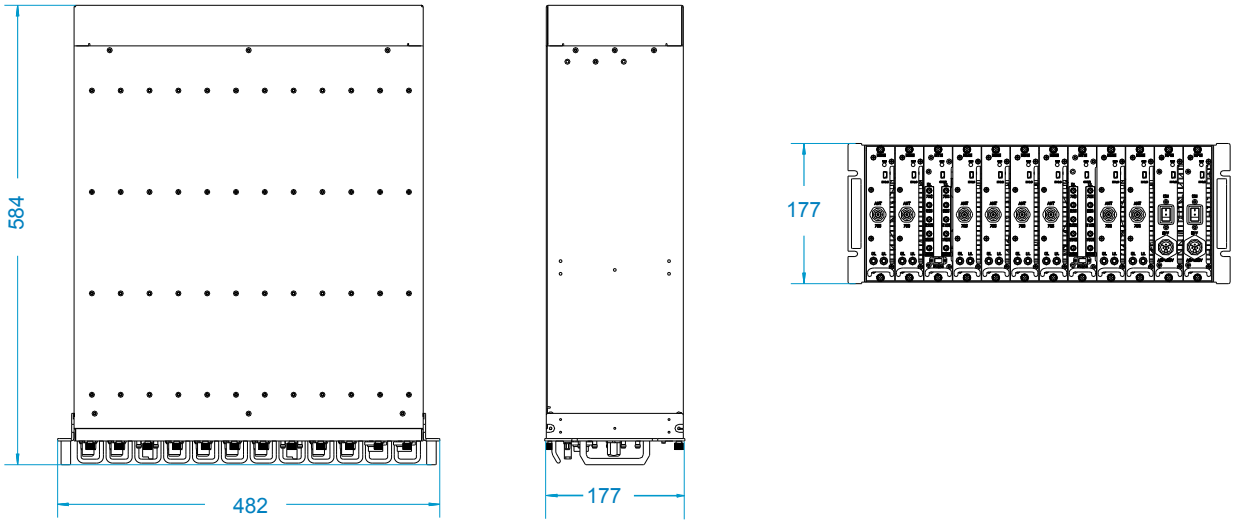
mBSC1426-RACK10-DC/AC

10-Slot Rack 19" Shelf for mid-power Remote Node

The mBSC mid-power Remote Node equipment is mounted within a 19" rack-mount enclosure. The mBSC RACK is 4 rack-units in height and contains 12 slots for plug-in line cards – 2 slots are dedicated for redundant Remote Power Modules (RPM), and the remaining 10 slots can be used for any combination of Remote Transport Modules (RTM) for fiber connections or Remote Unit Modules (RUM) for bi-directional amplification. The mBSC1426-RACK10 is rated for indoor applications. In addition to mounting in a standard 19" rack, the mBSC RACK can also be converted for wall-mounting.

Order SKU	Description
mBSC1426-RACK10-DC	19" Rack + 2 DC Remote Power Modules (RPM)
mBSC1426-RACK10-AC	19" Rack + 2 AC Remote Power Modules (RPM)

Specifications	
Max No. of Plug-in Modules	2 dedicated slots for redundant RPMs (AC or DC power option) 10 multi-purpose slots for any combination of 2 RTMs and 8 RUMs
Power Supply	-48 ± 20% VDC or 110 ~ 220 VAC ± 20%
Power Consumption	< 600 W per fully populated shelf
Dimension (H x W x D)	19" rack, 177 x 482 x 584 (mm)
Weight	< 54.88 kgs with full configuration
Ingress Protection	IP40
Operating Temperature	-10°C ~ +45°C
Monitoring Interface	4 Form-A/B external alarm inputs (per RPM)



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REMOTE NODE

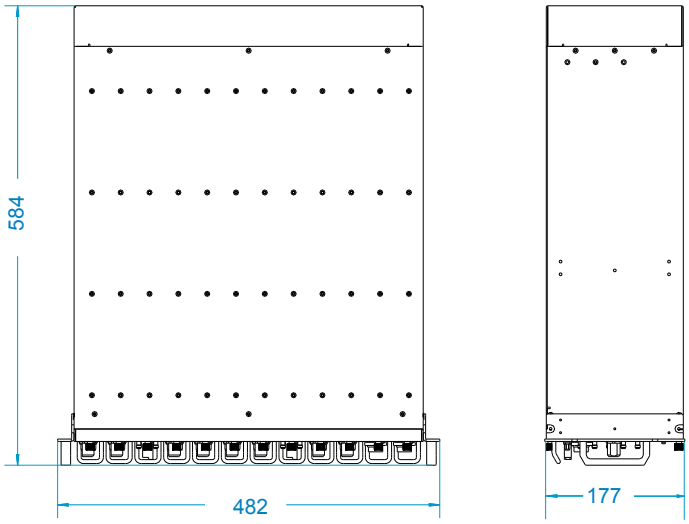
mBSC1426-RACK11-DC/AC

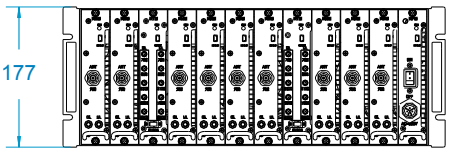
11-Slot Rack 19" Shelf for mid-power Remote Node

The mBSC mid-power Remote Node equipment is mounted within a 19" rack-mount enclosure. The mBSC RACK is 4 rack-units in height and contains 12 slots for plug-in line cards – 1 slot is dedicated for redundant Remote Power Module (RPM), and the remaining 11 slots can be used for any combination of Remote Transport Modules (RTM) for fiber connections or Remote Unit Modules (RUM) for bi-directional amplification. The mBSC1426-RACK11 is rated for indoor applications. In addition to mounting in a standard 19" rack, the mBSC RACK can also be converted for wall-mounting.

Order SKU	Description
mBSC1426-RACK11-DC	19" Rack + 1 DC Remote Power Module (RPM)
mBSC1426-RACK11-AC	19" Rack + 1 AC Remote Power Module (RPM)

Specifications	
Max No. of Plug-in Modules	1 dedicated slot for redundant PSM 11 multi-purpose slots for any combination of 2 RTMs and 9 RUMs
Power Supply	-48 ± 20% VDC or 110 ~ 220 VAC ± 20%
Power Consumption	< 600 W per fully populated shelf
Dimension (H x W x D)	19" rack, 177 x 482 x 584 (mm)
Weight	< 54.88 kgs with full configuration
Ingress Protection	IP40
Operating Temperature	-10°C ~ +45°C
Monitoring Interface	4 Form-A/B external alarm inputs





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REMOTE NODE

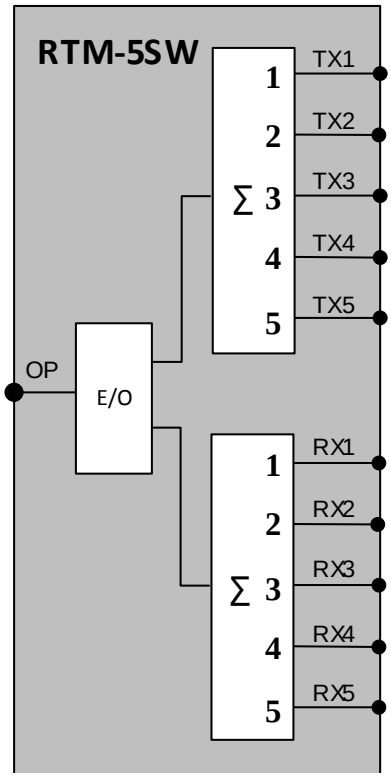
mBSC1430-RTM-5SW

Remote Transport Module (RTM) 1 Link, WDM

The Remote Transport Module (RTM) provides optical-to-RF conversion at the mBSC mid-power Remote Node. The RTM is a plug-in line card module which occupies one slot within the mid-power Remote Node 19" rack. The RTM receives the optical signal from the Host Unit FIU, and distributes simplex RF to up to five interonnected mid-power Remote Unit Modules (RUMs). Each Simplex RF port is a wideband port - a frequency-specific RU can be connected to any port on the RTM. For MIMO connections two RTMs are required. The RTM also includes a serial interface that provides a local connection for configuration and control of the mBSC system.

Order SKU	Description
mBSC1430-RTM-5SW	Remote Transport Module (RTM), 5-band, 1 Link, WDM

Specifications	
Optical Link Budget	10 dBo
Optical Wavelength	DL: 1310 nm UL: 1550 nm
Isolation	Band Isolation: > 35 dB Tx/Rx Isolation: > 70 dB
RF Interface	QMA Female
Optical Connector	E2000/APC (Simplex, Single-Mode Fiber)
Configuration	1 or 2 RTMs per shelf Supports any 5 bands
Control Interface	Ethernet (Local GUI)
Power Consumption	30 W (typ)



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REMOTE NODE

mBSCxxxx-005-RUCM01

xxxx=0700/0850/900/1800/2100/2300/2600

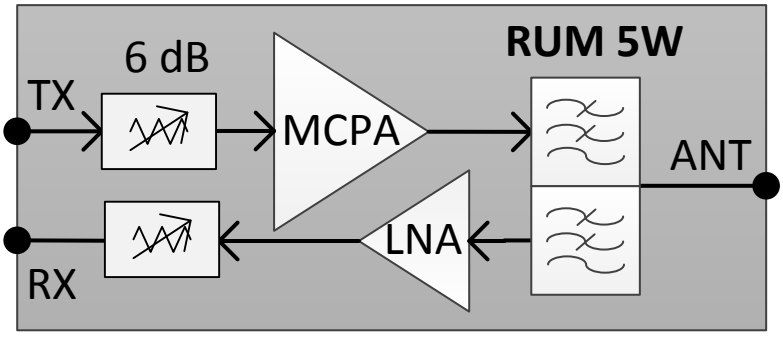
5 W Remote Unit Module (RUM) Band-specific, Bi-Directional Amplifier

The mBSC Remote Unit Module (RUM) is a mid-power bi-directional amplifier which provides forward and reverse channel amplification within a single licensed operating band. The RUM is frequency band specific and delivers ultra-linear downlink output power up to 5W. The RUM is a plug-in line card module which occupies one slot within the mid-power Remote Node 19" rack. The RUM amplifiers support full instantaneous bandwidth operation with mixed-mode RF signals.

Order SKU	Description	
mBSC0700-005-RUCM01	DL: 758-803 MHz	UL: 703-748 MHz
mBSC0850-005-RUCM01	DL: 869-890 MHz	UL: 824-845 MHz
mBSC0900-005-RUCM01	DL: 935-960 MHz	UL: 891-915 MHz
mBSC1800-005-RUCM01	DL: 1805-1880 MHz	UL: 1710-1785 MHz
mBSC2100-005-RUCM01	DL: 2110-2170 MHz	UL: 1920-1980 MHz
mBSC2300-005-RUCM01	2300-2400 MHz	
mBSC2600-005-RUCM01	DL: 2620-2690 MHz	UL: 2500-2570 MHz

Specifications	
Output Power	5 W (+37 dBm) per band
Signal Bandwidth	Full instantaneous bandwidth, mixed-mode operation
RF Interface to RTM	QMA Female (TXout, RXin)
Antenna Port	N-Type Female
Certifications	FCC/IC
Power Consumption	55 W (typ), 65 W (max)
Adjustable Attenuation Range*	0-6 dB in 0.5 dB steps, Downlink and Uplink

**contact BTI Support if a wider attenuation adjustment range is required*



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REMOTE NODE

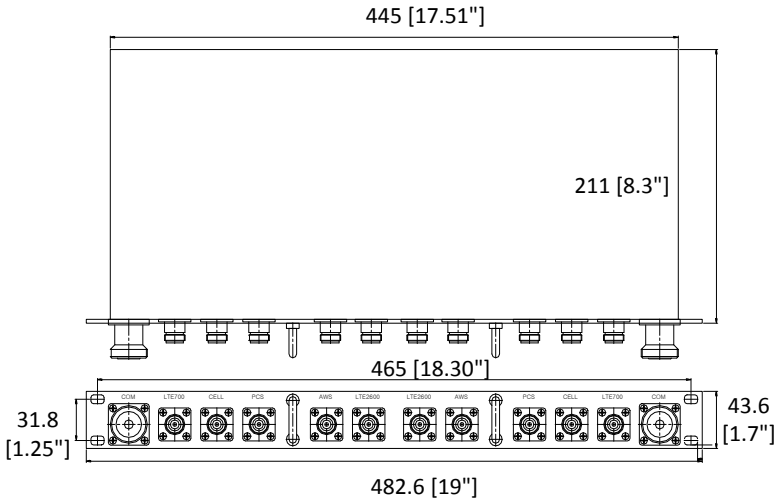
mBSC1426-BCM-5MA/B/C

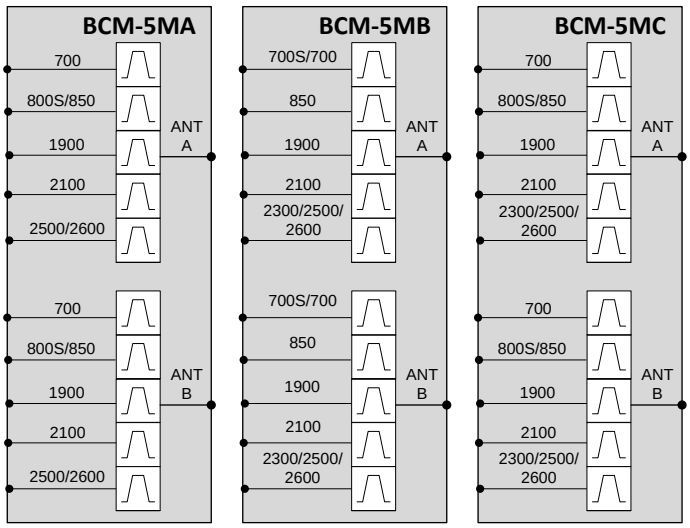
Dual 5 Port Combiner

The Band Combiner Module (BCM-5MA/B/C) is a mid-power, passive antenna combiner. Two 5-port combiner modules are housed in 1 enclosure and each module combines up to 5 bands of Duplex RF signals from individual Remote Node bi-directional amplifiers into a single composite duplex signal for delivery to the Service Antenna.

Order SKU	Description
mBSC1426-BCM-5MA	MIMO 5-Port Antenna Combiner
mBSC1426-BCM-5MB	MIMO 5-Port Antenna Combiner
mBSC1426-BCM-5MC	MIMO 5-Port Antenna Combiner

Specifications	Port 1/6	Port 2/7	Port 3/8	Port 4/9	Port 5/10
Frequency Band (MHz)	5MA: 700 5MB: 700S/700 5MC: 700	5MA: 800S/850 5MB: 850 5MC: 800S/850	5MA: 1900 5MB: 1900 5MC: 1900	5MA: 2100 5MB: 2100 5MC: 2100	5MA: 2500/2600 5MB: 2300/2500/2600 5MC: 2300/2500/2600
Frequency Range (MHz)	5MA: 698-787 5MB: 698-805 5MC: 698-787	5MA: 806-894 5MB: 824-894 5MC: 806-894	5MA: 1850-1995 5MB: 1850-1995 5MC: 1850-1995	5MA: 1710-1755 & 2110-2155 5MB: 1710-1780 & 2110-2180 5MC: 1710-1780 & 2110-2180	5MA: 2496-2690 5MB: 2300-2690 5MC: 2300-2690
Insertion Loss- Mid Band	< 0.5 dB	< 0.5 dB	< 0.5 dB	< 0.5 dB	< 0.5 dB
Return Loss	⩾ 18 dB	⩾ 18 dB	⩾ 18 dB	⩾ 18 dB	⩾ 18 dB
Isolation	50 dB between each band				
Power Handling	100 W (avg)				
PIM	< -162 dBc (2 x 35 dBm)				
Impedance	50 Ω				
Operating Temperature	-40˚C ~ +65˚C				
Dimensions (H x W x D)	43.6 x 482.6 x 211 (mm)				
RF Interface to RUM	N-Type Female (4.3-10 DIN Optional)				
Antenna Port	7/16 DIN Female				





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REMOTE NODE

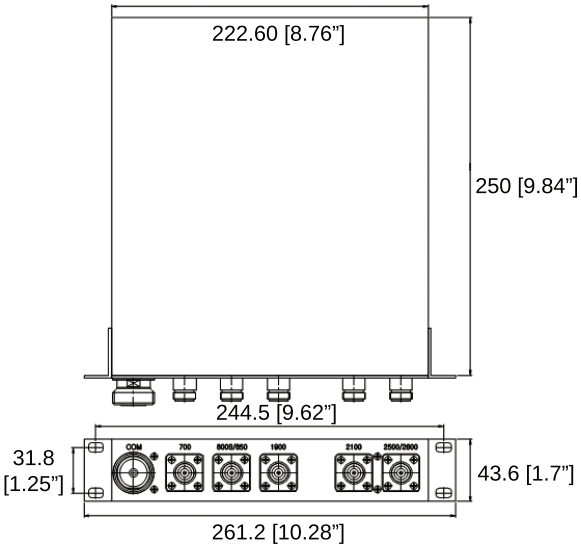
mBSC1426-BCM-5SA/B/C

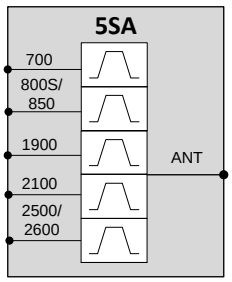
Dual 5 Port Combiner

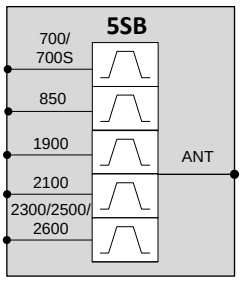
The Band Combiner Module (BCM-5SA/B/C) is a mid-power, passive antenna combiner which combines up to 5 bands of Duplex RF signals from individual Remote Node bi-directional amplifiers into a single composite duplex signal for delivery to the Service Antenna.

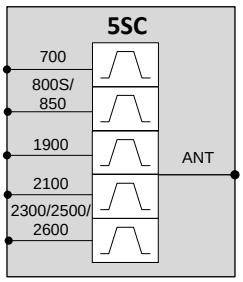
Order SKU	Description
mBSC1426-BCM-5SA	SISO 5-Port Antenna Combiner
mBSC1426-BCM-5SB	SISO 5-Port Antenna Combiner
mBSC1426-BCM-5SC	SISO 5-Port Antenna Combiner

Specifications	Port 1	Port 2	Port 3	Port 4	Port 5
Frequency Band (MHz)	5SA: 700 5SB: 700S/700 5SC: 700	5SA: 800S/850 5SB: 850 5SC: 800S/850	5SA: 1900 5SB: 1900 5SC: 1900	5SA: 2100 5SB: 2100 5SC: 2100	5SA: 2500/2600 5SB: 2300/2500/2600 5SC: 2300/2500/2600
Frequency Range (MHz)	5SA: 698-787 5SB: 698-805 5SC: 698-787	5SA: 806-894 5SB: 824-894 5SC: 806-894	5SA: 1850-1995 5SB: 1850-1995 5SC: 1850-1995	5SA: 1710-1755 & 2110-2155 5SB: 1710-1780 & 2110-2180 5SC: 1710-1780 & 2110-2180	5SA: 2496-2690 5SB: 2300-2690 5SC: 2300-2690
Insertion Loss- Mid Band	< 0.5 dB	< 0.5 dB	< 0.5 dB	< 0.5 dB	< 0.5 dB
Return Loss	⩾ 18 dB	⩾ 18 dB	⩾ 18 dB	⩾ 18 dB	⩾ 18 dB
Isolation	50 dB between each band				
Power Handling	100 W (avg)				
PIM	< -162 dBc (2 x 35 dBm)				
Impedance	50 Ω				
Operating Temperature	-40˚C ~ +65˚C				
Dimensions (H x W x D)	43.6 x 261.2 x 250 (mm)				
RF Interface to RUM	N-Type Female (4.3-10 DIN Optional)				
Antenna Port	7/16 DIN Female				









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REMOTE NODE

mBSC1426-RACK05-WM

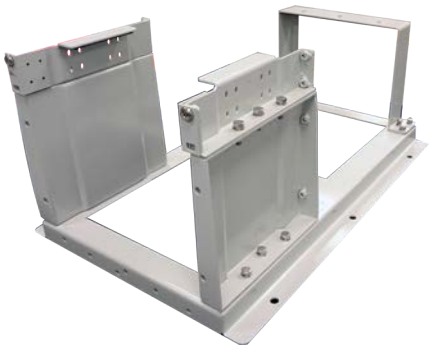
RACK05-Wall Mount Bracket for mid-power remote node

The RACK05-WM bracket is used in applications where it is more convenient to install the mid-power Remote Node flush against the wall. The Wall Mount can be installed in horizontal (left/right-facing) or vertical (up/down-facing) orientations.

SKU	Description	Dimensions (H x W x D)	Weight
mBSC1426-RACK05-WM	5-Slot Wall Mount Bracket, includes set of 1 RE + 1 RP	249.8 x 350 x 549.5 (mm) with Rack Extension 205 x 350 x 549.5 (mm) without Rack Extension	6.7 kgs (excluding CM Shelf)

Assembled Mounting Bracket with CM Shelf

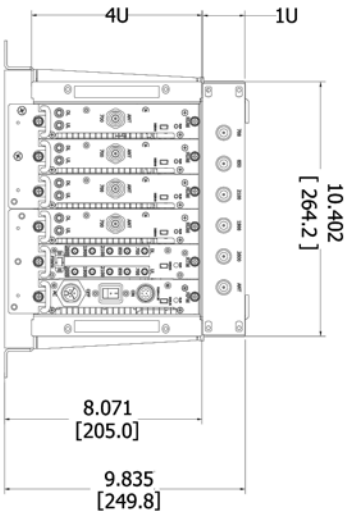
mBSC1426-RACK05-WM

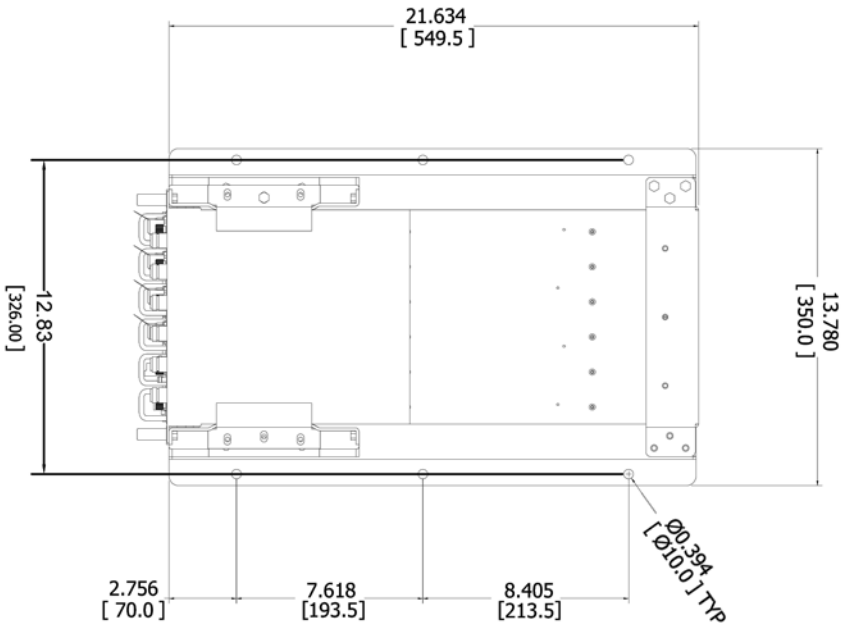


Rack Extension (RE)

Line-card Retention Plates (RP)

Note: Bracket can be wall-mounted in horizontal (left/right-facing) or vertical (up/down-facing) orientations. Review installation guide for details.





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REMOTE NODE

mBSC1426-RACK10-WM

RACK-10 Wall Mount Bracket for mid-power remote node

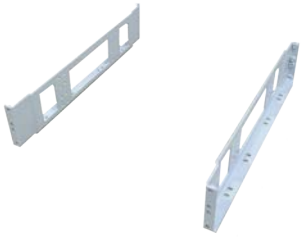
The RACK-10 Wall Mount bracket is used in applications where it is more convenient to install the mid-power Remote Node flush against the wall. The Wall Mount can be installed in horizontal (left/right-facing) or vertical (up/down-facing) orientations.

SKU	Description	Dimensions (H x W x D)	Weight
mBSC1426-RACK10-WM	10-Slot Wall Mount Bracket, includes set of 1 RE + 1 RP	293.2 x 625 x 600.53 (mm) with 19" Rack Extension 203.60 x 625 x 600.53 (mm) without 19" Rack Extension	13..6 kgs (excluding CM Shelf)

Assembled Mounting Bracket with CM Shelf

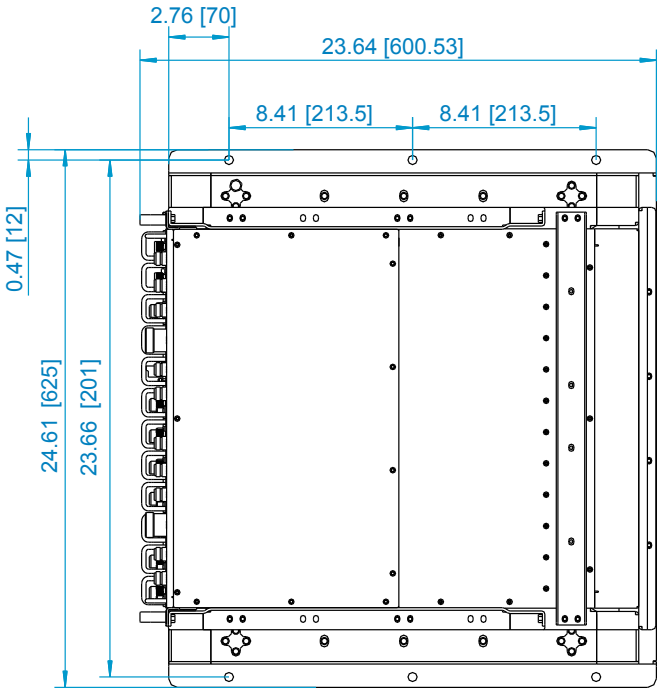
mBSC1426-RACK10-WM

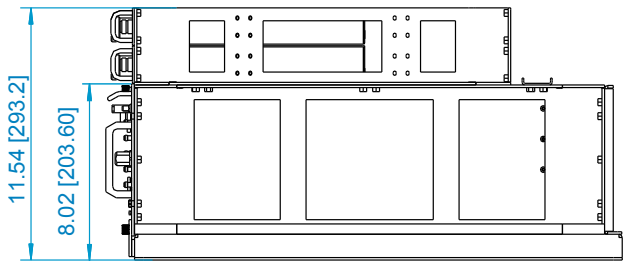
2 U 19" Rack Extension (RE)



Line-card Retention Plates (RP)

Note: Bracket can be wall-mounted in horizontal (left/right-facing) or vertical (up/down-facing) orientations. Review installation guide for details.





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