

BSDU-1X8

8 Way Bidirectional Splitter/Combiner, 500...9000 MHz

Features

- extremely wideband
- bidirectional signal distribution
- slot-in module for SR6-11C system platform

Applications

- Air interface emulation
- R&D (Research & Development)
- Product validation

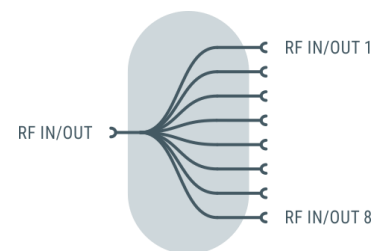
Scope

BSDU-1X8 is a wideband bi-directional splitter/combiner slot-in module, that distributes and combines signals from one common port to 8 equivalent ports.

The frequency range extends a frequency range from 500 MHz to more than 9 GHz and is therefore suitable for the latest Wi-Fi and cellular communication channels such as 802.11ax, and 5G NR mmWave.



Principal Block Diagram



RF Specification

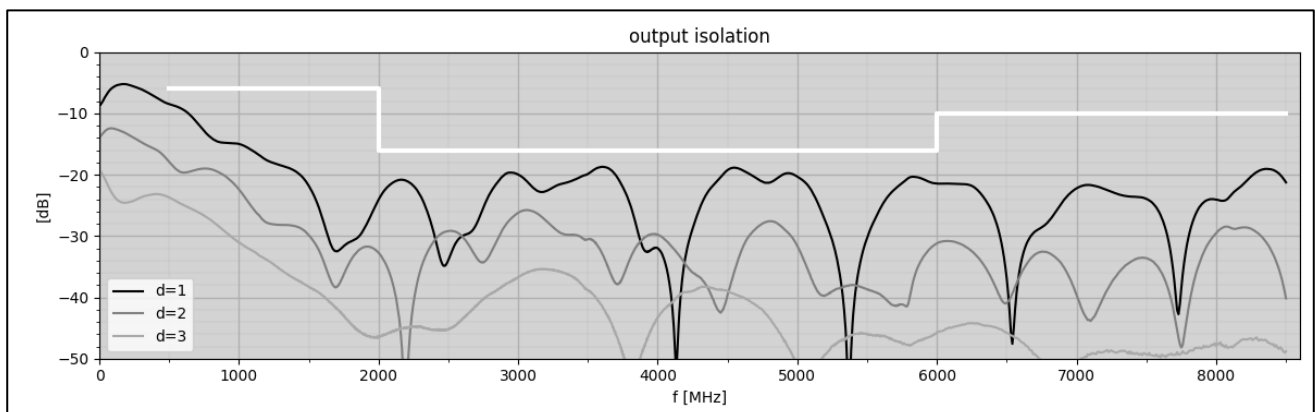
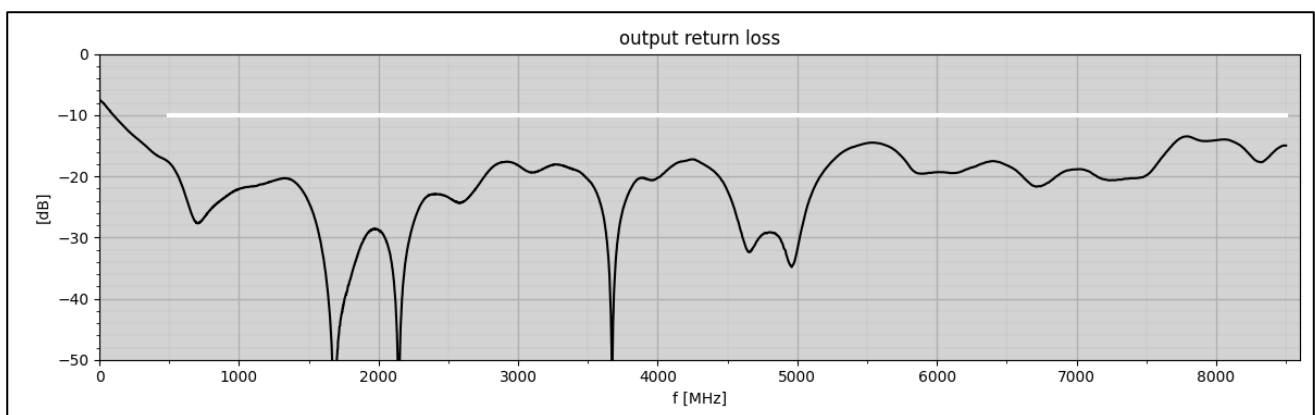
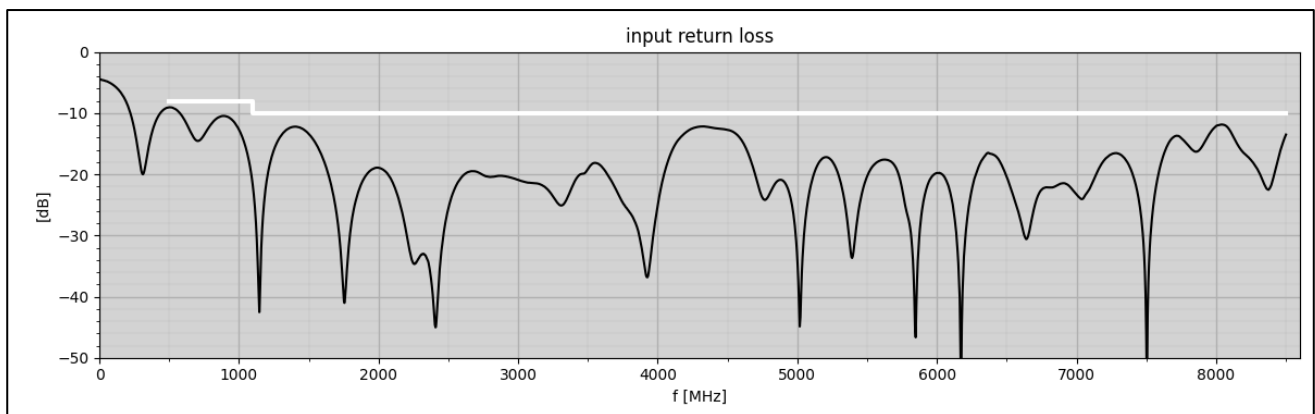
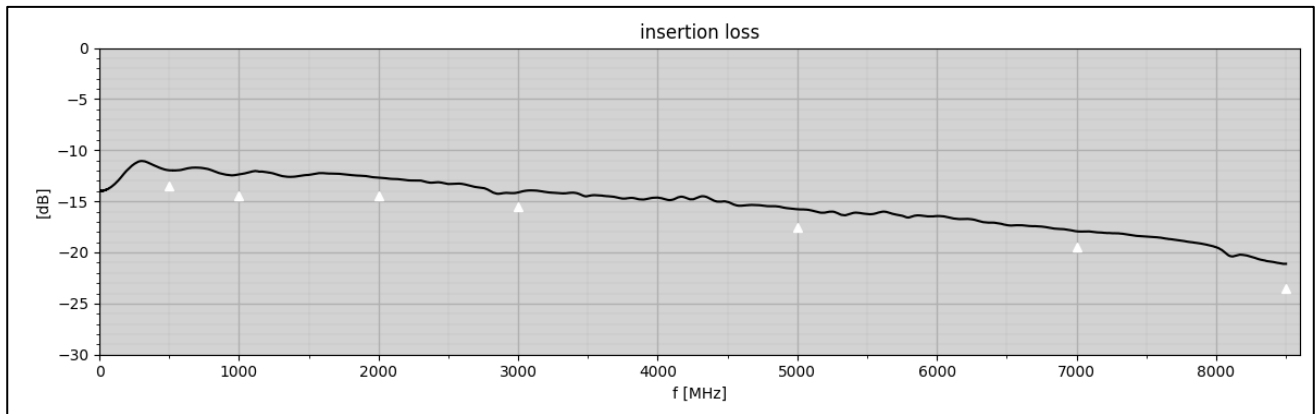
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{IN}/Z_{OUT}		50		Ω	
low frequency	f_{MIN}			500	MHz	
high frequency	f_{MAX}	8.5	9		GHz	
insertion loss	S_{21}	-13	-11		dB	$f = 0.5 \text{ GHz}$
	S_{21}	-14	-12		dB	$f = 1 \text{ GHz}$
	S_{21}	-14	-13		dB	$f = 2 \text{ GHz}$
	S_{21}	-15	-14		dB	$f = 3 \text{ GHz}$
	S_{21}	-17	-16		dB	$f = 5 \text{ GHz}$
	S_{21}	-19	-18		dB	$f = 7 \text{ GHz}$
	S_{21}	-23	-21		dB	$f = 8.5 \text{ GHz}$
input return loss	S_{11}		-10	-8	dB	$f < 1.1 \text{ GHz}$
	S_{11}		-17	-10	dB	$f \geq 1.1 \text{ GHz}$
output return loss	S_{22}		-17	-10	dB	
output isolation	S_{23}		-18	-6	dB	$d = 1, f < 2 \text{ GHz}$
	S_{23}		-23	-16	dB	$d = 1, 2 \text{ GHz} \leq f < 6 \text{ GHz}$
	S_{23}		-23	-10	dB	$d = 1, f \geq 6 \text{ GHz}$
	S_{23}		-30		dB	$d = 2, f \geq 2 \text{ GHz}$
	S_{23}		-45		dB	$d = 3, f \geq 2 \text{ GHz}$
input power	P_{in}			+33	dBm	RF_IN*, CW, no damage
	P_{in}			+30	dBm	RF_OUT1*...8, CW, no damage
maximum DC voltage	U_{DC}			20	V	all RF ports
ESD discharge resistor	R_{ESD}		4.7		k Ω	all RF ports
RF connectors	NF	SMA female				

* All RF inputs and outputs are Bi-Directional

Common Specification

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
dimensions	W x H x D	approx. 30 x 262 x 197			mm	6 U, 6 HP
weight	m		1.2		kg	
operating temp. range	T_o	+5		+55	$^{\circ}\text{C}$	ambiance
storage temp. range	T_s	-40		+70	$^{\circ}\text{C}$	
ordering information		BSDU-1X8			2109.6200.5	

S-Parameters (typical responses)



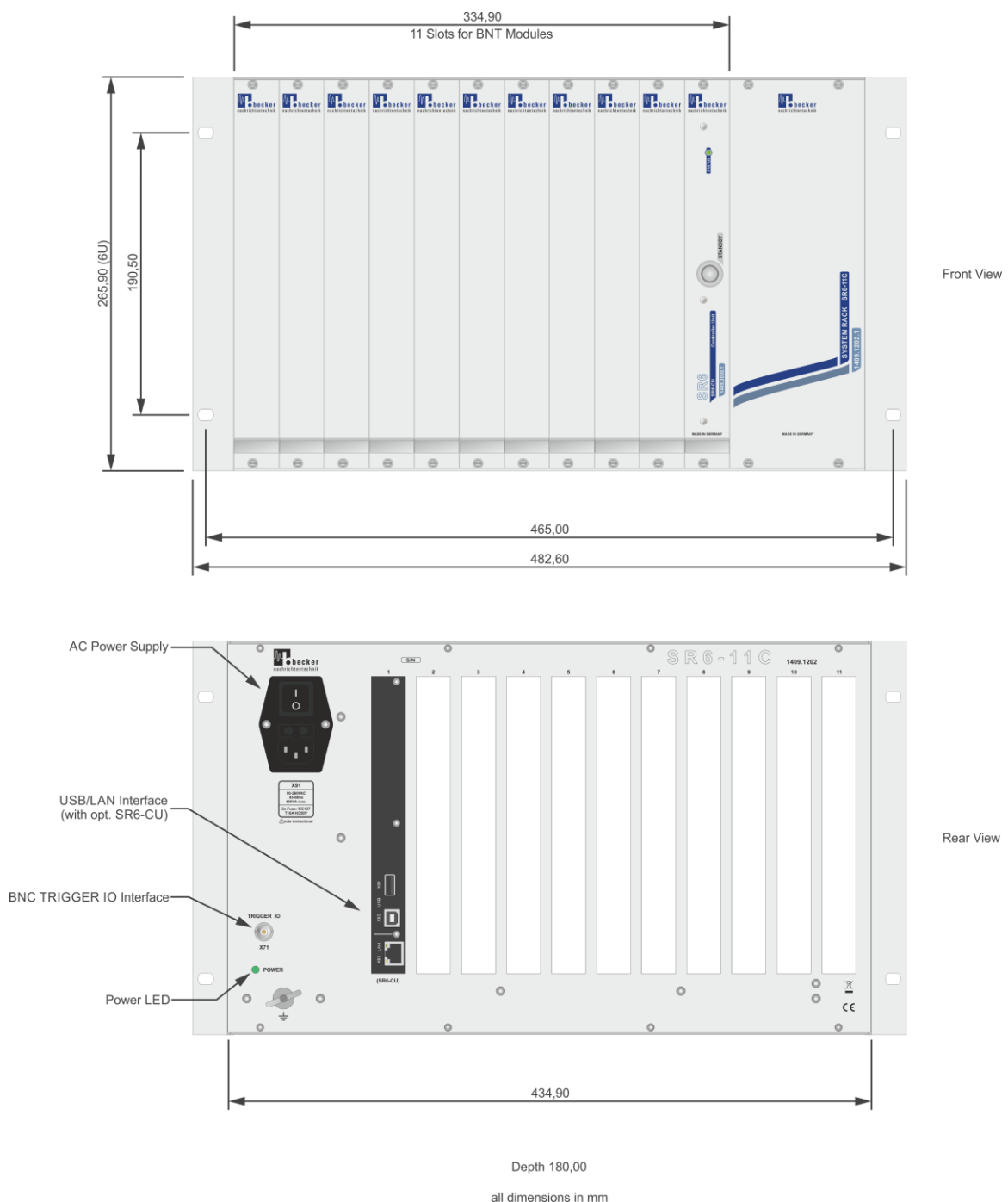
Appearances

SR6-11C System Platform

The BSDU-1X8 module is foreseen for the integration into the SR6-11C system platform. 11 slots in the SR6-11C can be used for modules like RF switches, matrices, multicouplers, attenuators,

BIAS-Ts, level detectors, bi-directional splitters/combiners for signal conditioning and a controller unit. For remote controllable modules the SR6-CU controller unit is required.

Dimensions of SR6-11C System Platform



Front View



Rear View



SR6-11C System Platform



Related Products

Product	Description	P/N
SR6-11C	System Platform with 11 Slots for Modules	1409.1202.1
SR6-CU	Controller Unit with LAN and USB Remote Interface	1409.3000.1

Unidirectional Products: Multicouplers, Matrices, Level Detectors

Product	Description	P/N
WSDU-1X8L	8 Way Multicoupler Module, 100 kHz ... 4000 MHz	1807.6100.1
WSDU-2X4L	2 Section Hi Dynamic 4 Way Multicoupler Module, 100 kHz ... 4000 MHz	1807.6200.1
WSDU-2X4E+	2 Section 1x4 plus 1x2 Multicoupler Module, 20 ... 8000 MHz	1501.6200.1
WSDU-1X8U	Ultra-Wideband 8-Way Multicoupler Module, 100 kHz ... 18000 MHz	2109.6000.1
WSDU-1X8S	High Dynamic 1x8 Shortwave Multicoupler Module, 300 kHz ... 30 MHz	1502.6100.1
WSDU-1X8A	8 Way High Dynamic Signal Conditioning Multicoupler, 100 kHz ... 4000 MHz	1807.6300.1
WSDU-2X4A	2 Section 4 Way High Dynamic Signal Conditioning Multicoupler, 100 kHz ... 4000 MHz	1807.6400.1
WSDU-1X2PM	2 Channel, 5 W Multicoupler with ALC Capability, 20 MHz...3000 MHz	1606.6000.1
RSWM-4X4	4x4 Switching Matrix -Non-blocking-, 100 kHz ... 4000 MHz or 20 MHz ... 4000 MHz	1205.4100.1
RSWM-4X4E	4x4 Ultra-Wideband Switching Matrix -Non-blocking-, 20 MHz ... 8000 MHz	2001.4100.1
RFLD-8RE	8 Channel True Power RF Level Detector, 1 MHz ... 8000 MHz	1505.8000.1

Bi-Directional Products: Switches, Matrices, Attenuators, Delay Lines, BIAS-Ts, Splitters/Combiners, Filters

Product	Description	P/N
BSDU-1X8A	8 Way Bidirectional Signal Conditioning Splitter/Combiner, 500...9000 MHz	2109.6200.1
BSDU-1X8ER	8 Way Bidirectional Splitter/Combiner, 500...9000 MHz, 19" - 1 U device	2109.6202.1
BSDU-2X4	2 Section 4 Way Bidirectional Signal Splitter/Combiner 500...9000 MHz	2109.6250.5
BSDU-2X4A	2 Section 4 Way Bi-directional Signal Conditioning Splitter Module 500 ... 9000 MHz	2109.6250.1
RSWU-2SP4TS+	2 Channel Non-reflective SP4T Switches plus 1 Channel SPDT Switch 100 kHz ... 8500 MHz	1408.4010.1
RSWU-8SPSTS	8 Channel Non-reflective SPST Switch 100 kHz ... 8500 MHz	1408.4000.1
RSWU-4SPDTS	4 Channel Non-reflective SPDT Switch 100 kHz ... 8500 MHz	1408.4020.1
RSWU-8SPST-CS	8 Channel High Isolation SPST with DC Load Simulation 100 kHz ... 7500 MHz	1811.4100.1
BSWM-4X4E	4x4 High Isolation Bi-Directional Switching Matrix –Blocking- 100 kHz ... 7500 MHz	1205.4600.1
ATT-8E	8 Channel Digital Step Attenuator 0 ... 31.75 dB 100 kHz ... 8000 MHz	1503.4000.1
DLL-4	4 Channel Programmable Delay Line 0 ... 1700 ps 250 MHz ... 4000 MHz	1303.4200.1
PT-4CS	4 Channel Programmable DC Sink 0 ... 400 mA 100 kHz ... 8500 MHz	1605.2020.1
PT-4CL	4 Channel Wideband DC Load 100 kHz ... 8500 MHz	1605.2040.1
FBS-1590	L1 Band GNSS Notch Filter	1511.5100.1