

High Dynamic 8 Way Combiner 100 kHz ... 4000 MHz, 50 Ω

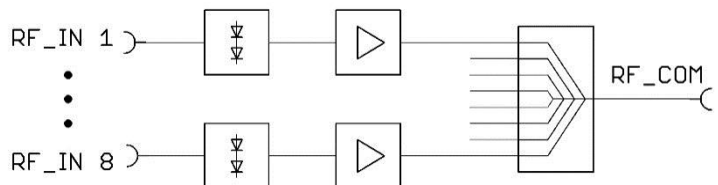
Features

- wideband
- high dynamic
- without signal losses
- low power consumption
- high port- to- port isolation
- compact 19", 1 U design



Applications

- AM / FM / DAB / GPS / SDARS / DVB-T
- ISM 433 / 868 / 2400 MHz
- GSM, UMTS, LTE
- antenna and test signal combiners
- receiving systems
- final testing



Wideband

WSCU-8X1R is a wideband device that combines up to 8 input signals to one common output. The frequency range extends from 100 kHz up to more than 4000 MHz. This allows the combination of different RF signal sources like signal generators and conditioned signals from antennas to one common output in an extremely wide frequency range.

Lossless 8 to 1 Combination

All 8 RF inputs are amplified using broadband low-noise amplifiers with high dynamic ranges. As a result, the combined input signals are available at the common output of the combiner without any loss in level. All inputs and outputs have N female connectors.

High Input to Input Isolation

WSCU-8X1R features high input to input port isolation to prevent signal sources from affecting each other.

A Plurality of Signals over One Cable

WSCU-8X1R combines several signal sources to one common output. In combination with the wideband signal distribution units of the WSDU series, complex signal distributions can be realized in a cable and cost saving way.

Broadcast Distribution Systems

Manufacturer of infotainment systems often need test- and live signals for the several broadcast signal standards distributed to numerous workplaces.

In combination with the devices of WSDU wideband signal distribution units, the WSCU-8X1R combiner is ideal for applications like production end test, research and development and for all applications, where several signal sources, must firstly combined and later distributed in a wide frequency range.

RF Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{in} / Z_{out}		50		Ohm	
low frequency	f_{min}		50	100	kHz	
high frequency	f_{max}	4000	5000		MHz	
gain	S_{21}	-2	0	2	dB	
input return loss	S_{11}		-18	-10	dB	$f \leq 3500$ MHz
			-10	-7	dB	$f > 3500$ MHz
output return loss	S_{22}		-18	-10	dB	$f \leq 3500$ MHz
			-10	-7	dB	$f > 3500$ MHz
reverse isolation	S_{12}		-68	-60	dB	
input isolation	S_{23}	24	29		dB	
1 dB compression	P_{1dB}	+5.0	+7.5		dBm	$f \leq 1500$ MHz
		+3.0	+5.0		dBm	$1500 \text{ MHz} < f \leq 2000$ MHz
		+0.5	+1.5		dBm	$2000 \text{ MHz} < f \leq 3000$ MHz
		-2.0	0		dBm	$f > 3000$ MHz
2 nd order intercept	OPIP2 ¹	+36	+42		dBm	$f = 1000$ MHz
		+35	+38		dBm	$f = 2000$ MHz
		+32	+34		dBm	$f = 3000$ MHz
3 rd order intercept	OPIP3 ¹	+18	+19.5		dBm	$f = 1000$ MHz
		+14	+16		dBm	$f = 2000$ MHz
		+10	+12		dBm	$f = 3000$ MHz
noise figure	NF		15	17	dB	$150 \text{ kHz} \leq f \leq 3000$ MHz
maximum input power	$P_{in \max}$			+15	dBm	CW, no damage
coupling to RF_OUT	S_{21}		-30		dB	monitoring output
RF connectors		N female				

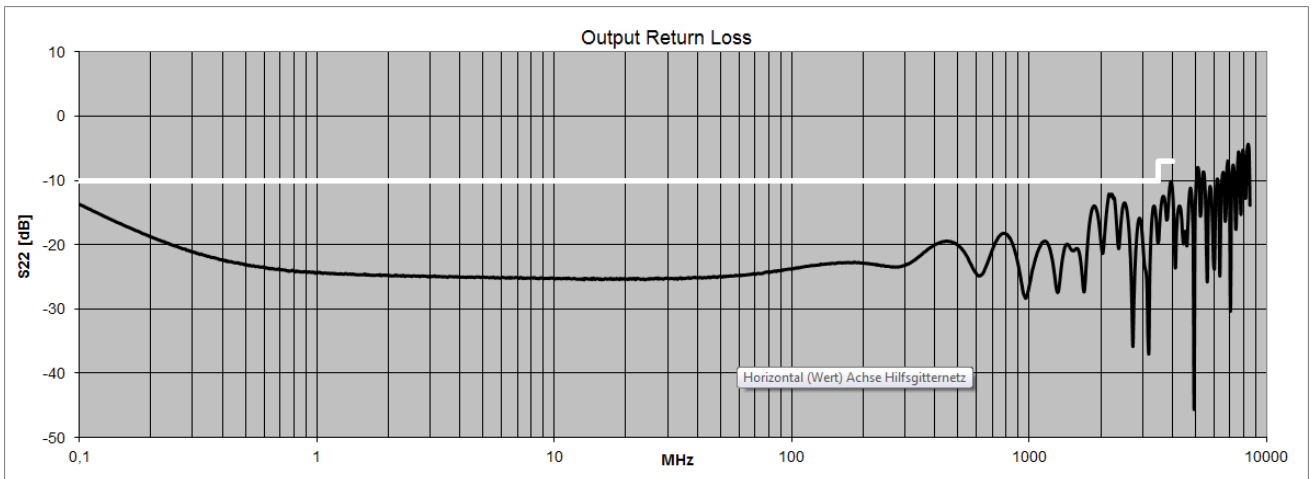
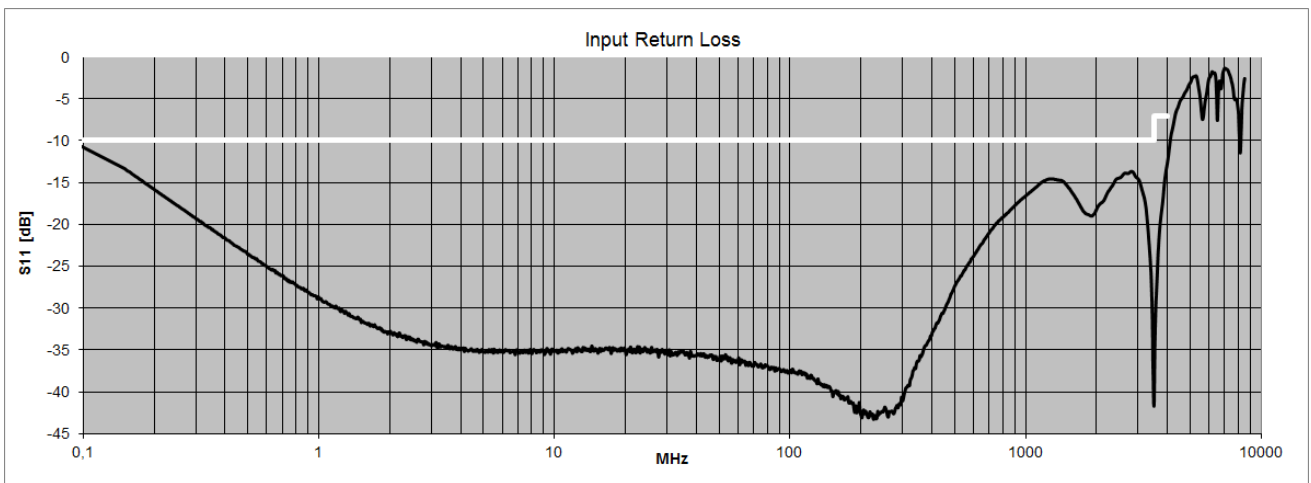
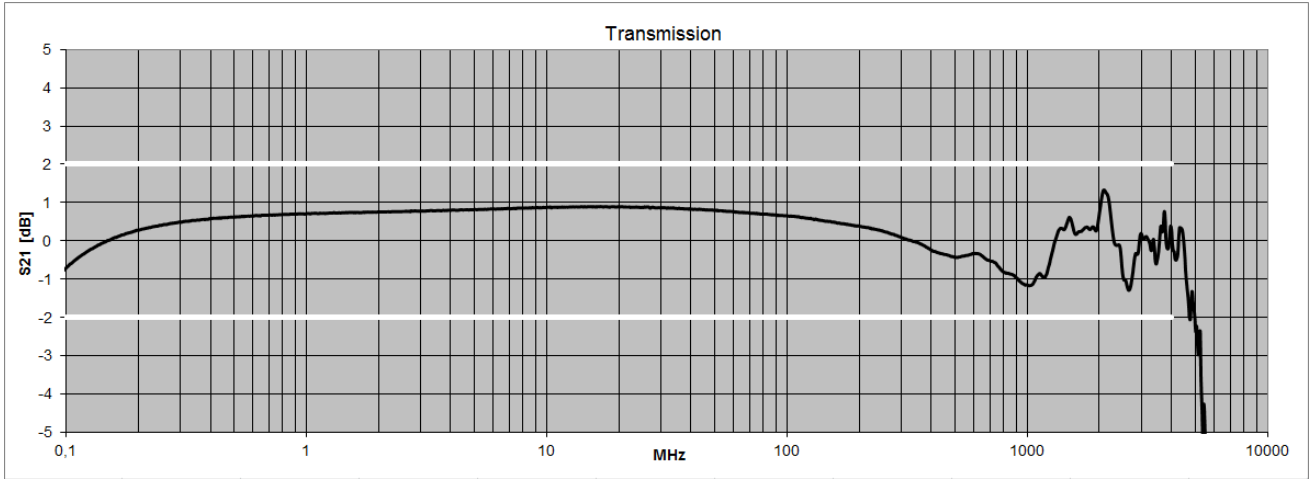
Note 1: two tone, $\Delta f = 100$ MHz, $P_{in} 2 \times -10$ dBm. IP2 products are measured at 100 MHz (differential product)

Common Specifications

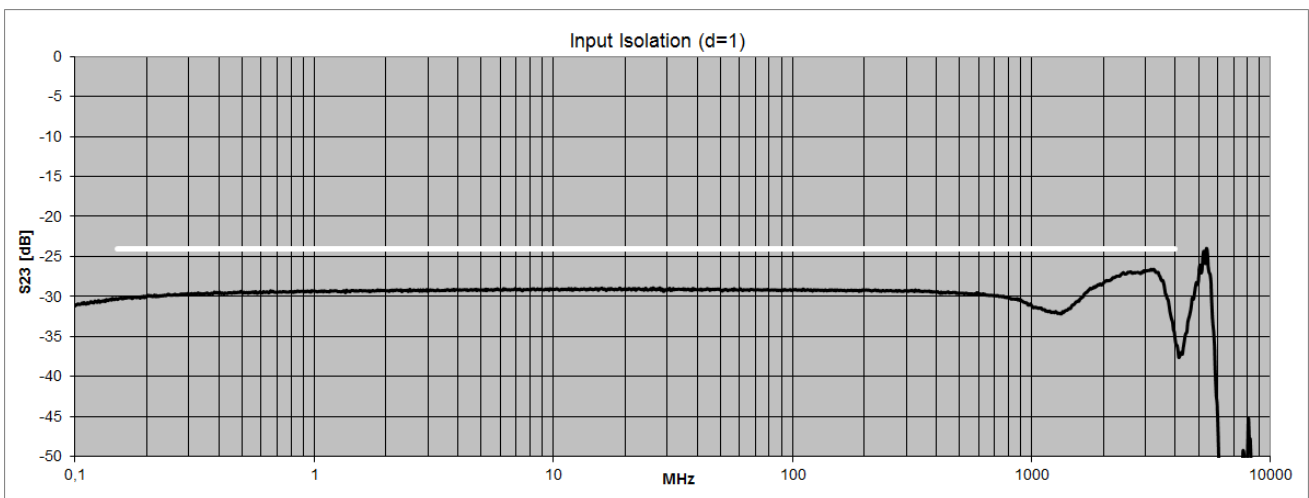
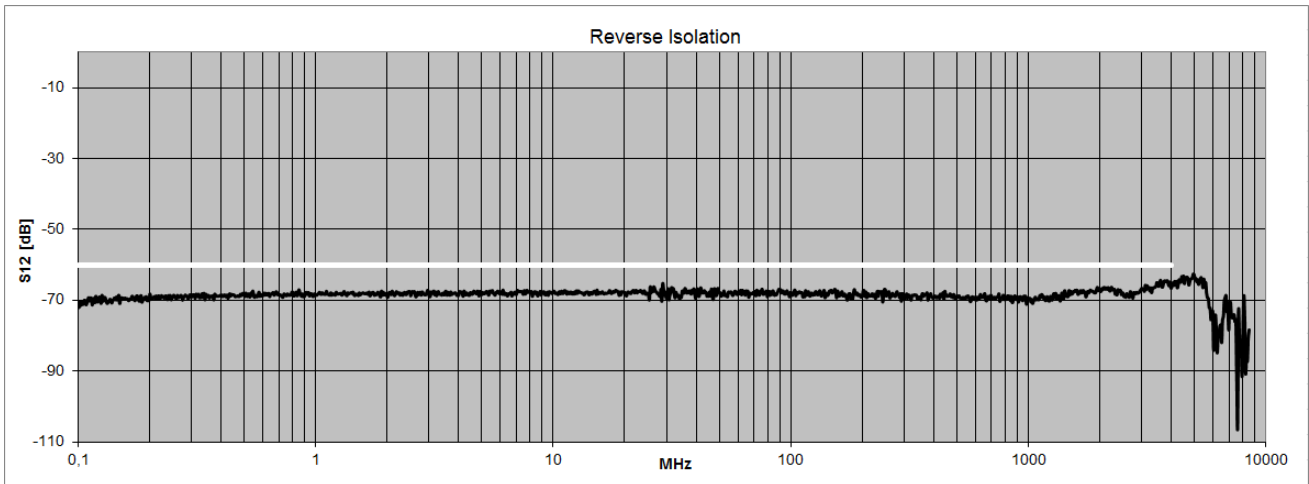
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
power supply		90	230	260	V	50 / 60 Hz AC
power consumption			28	50	VA	
dimensions	L x W x H	approx. 145 x 482 x 44			mm	19" 1 U, without connectors and handles
weight			2900		g	
operating temp. range	T_o	+5		+40	°C	ambiance
storage temp. range	T_s	-40		+70	°C	
ordering information		WSCU-8X1R		1208.6102.1		



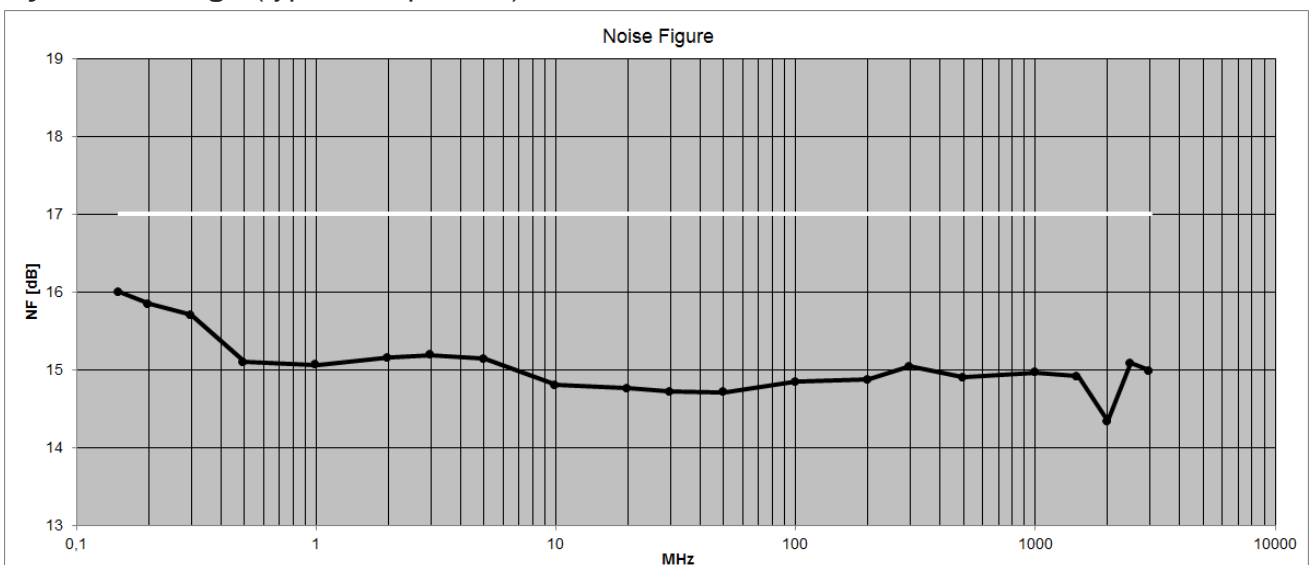
S-Parameters (typical responses)

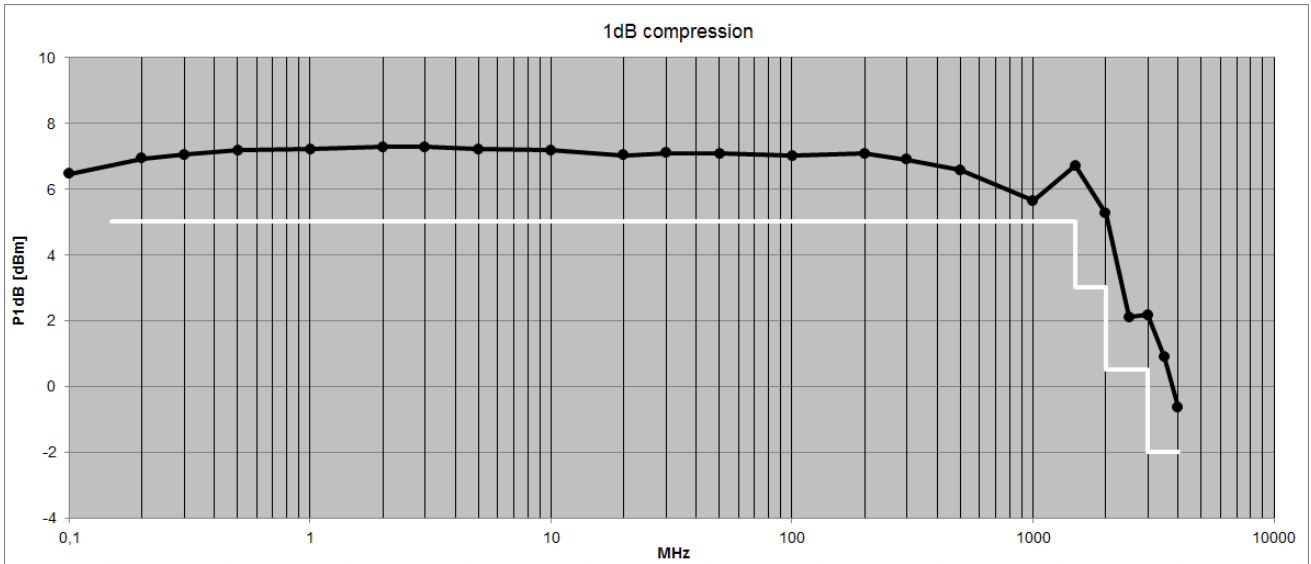


Isolation



Dynamic Range (typical responses)





Front View



Rear View



Related Products

Product	Description	P/N
MBAC	4 channel active antenna combiner for broadcast and navigation signals	1314.5102.1
WSDU1X8	High dynamic 8 way multicoupler module 100 kHz ... 4000 MHz, 50 Ω	1202.6100.1
WSDU1X8R	High dynamic 8 way multicoupler 100 kHz ... 4000 MHz, 50 Ω	1107.6102.1

