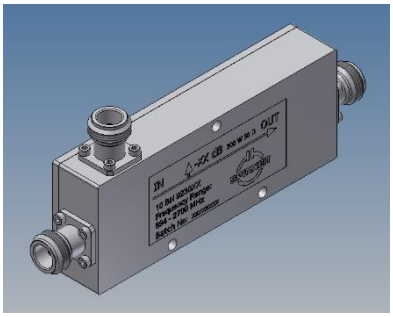
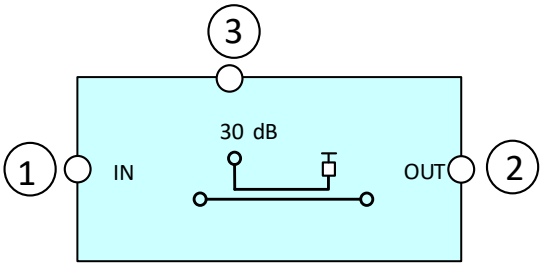
Directional Coupler 4.8dB /6dB /7dB /8dB /10dB /13dB /15dB /20dB /30dB



not binding

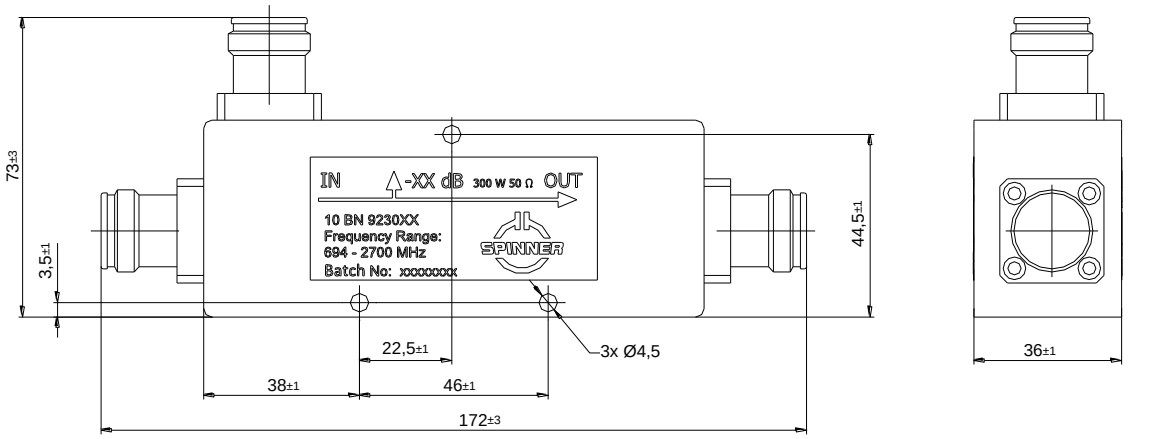


block diagram
(example:30dB coupler)

Part number (BN) **4.3 -10 Female (50 Ohms)**	**923014**	**923001**	**923003**	**923006**	**923007**	**923008**	**923009**	**923012**	**923013**
Part number (BN) **7-16 Female (50 Ohms)**	**818355**	**818356**	**818357**	**818362**	**818358**	**818366**	**818359**	**818360**	**818361**
Part number (BN) **N-Female (50 Ohms)**	**923071**	**923056**	**923057**	**923062**	**923058**	**923066**	**923059**	**923060**	**923061**
Splitting ratio	1 : 0.33 : 0.67	1 : 0.25 : 0.75	1 : 0.2 : 0.8	1 : 0.16 : 0.84	1 : 0.1 : 0.9	1 : 0.05 : 0.95	1 : 0.03 : 0.97	1 : 0.01 : 0.99	1 : 0.001 : 0.999
Frequency range	694 – 2700 MHz								
Insertion loss	2.1 dB	1.5 dB	1.4 dB	1.3 dB	1.1 dB	0.9dB	0.7 dB	0.5 dB	0.4 dB
Coupling	4.8 dB +1.0/-0.6 dB	6 dB ± 0.8 dB	7 dB ± 0.8 dB	8 dB ± 0.8 dB	10 dB ± 0.8 dB	13 dB ± 0.8 dB	15 dB ± 1.0 dB	20 dB ± 1.0 dB	30 dB ± 1.2 dB
VSWR	≤ 1.25								
Directivity	≥ 20 dB	≥ 20 dB	≥ 20 dB	≥ 20 dB	≥ 20 dB	≥ 20 dB	≥ 20 dB	≥ 20 dB	≥ 15 dB
Power rating	300 W								
IM - value 3rd order @ 2 x 20 W	≤ -155 dBc | typical ≤ -160 dBc								
DC-by-pass	Port 1 to Port 2 (max. 1A per input max. 60V DC(AISG Standard, 2.0, § 6.4))								
Degree of protection	IP 65 (Outdoor)								
Environmental conditions	ETSI EN 300019-1-1 Class 1.2 ETSI EN 300019-1-2 Class 2.3 ETSI EN 300019-1-4 Class 4.1E								
Weight	4.3 -10 Female 0.55 kg N Female 0.35 kg 7-16 Female 0.66 kg								
Paint color	Grey								
Wall / Mast mounting	4.3 -10 Female to be ordered separately under BN B26399 N Female to be ordered separately under BN B23654 7-16 Female to be ordered separately under BN B26399								
Temperature range	-40 °C – +80 °C								
Dimensions (w x h x d)	See drawing								

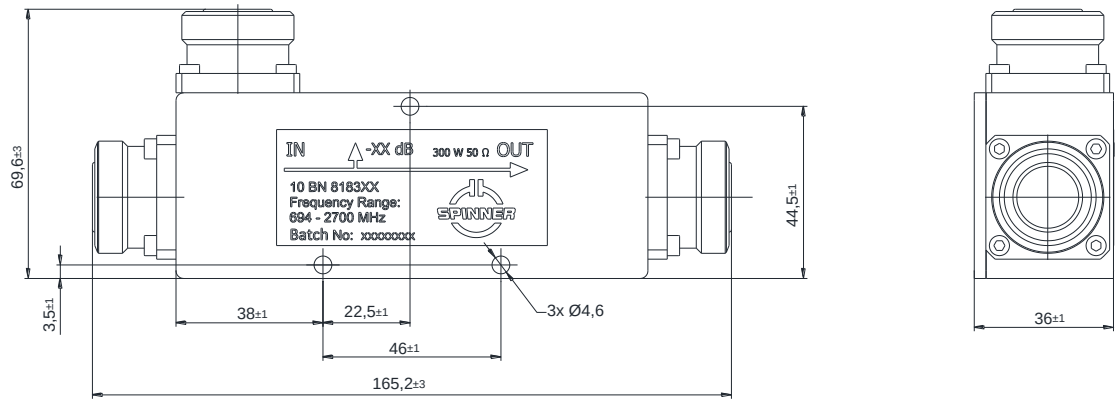
SPINNER GmbH | Erzgiessereistr. 33 | 80335 München | Germany | www.spinner-group.com | info@spinner-group.com

Dimensions:



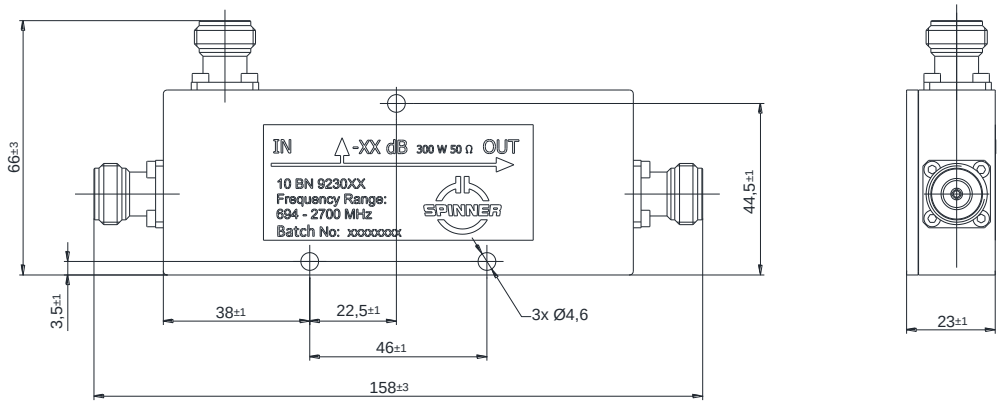
Standard:

4.3-10 female (50 ohms): IEC 61169-54



Standard:

7-16 female (50 ohms): CECC 22190, IEC 61169-4

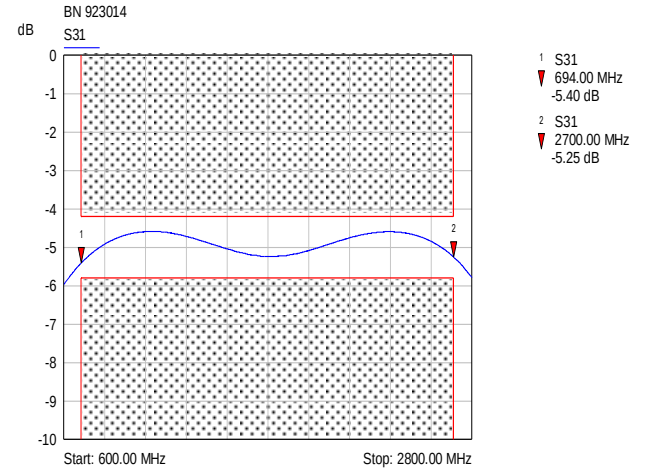


Standard:

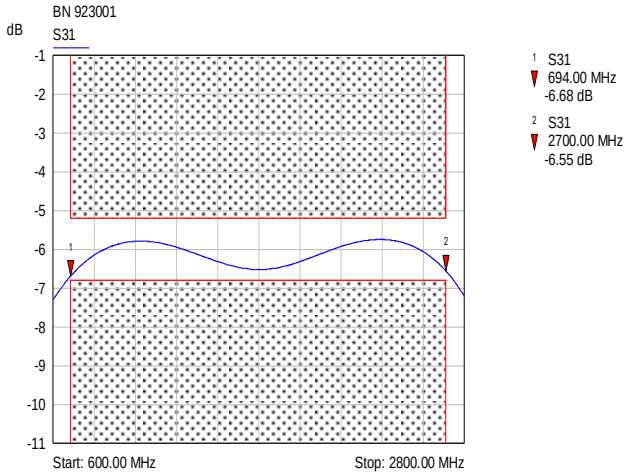
N female (50 ohms): CECC 22210, IEC 61169-16

Measurement:

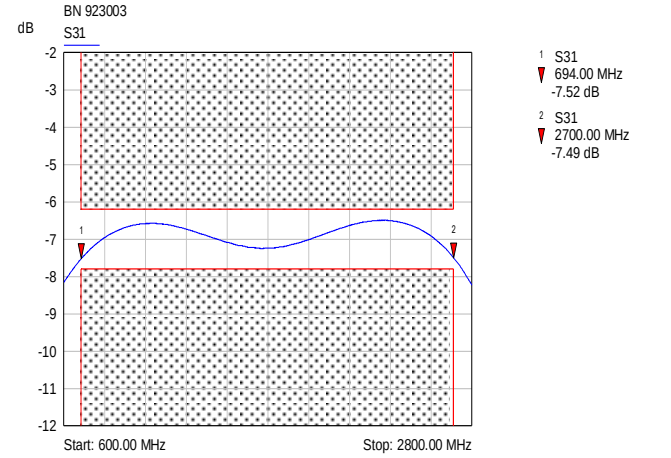
Coupling 4.8 dB:



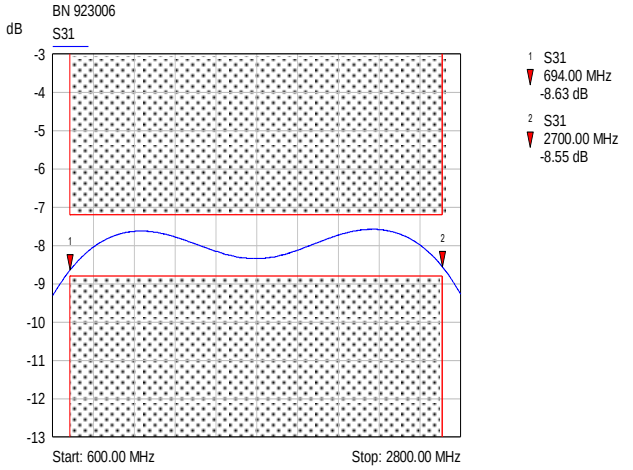
Coupling 6 dB:



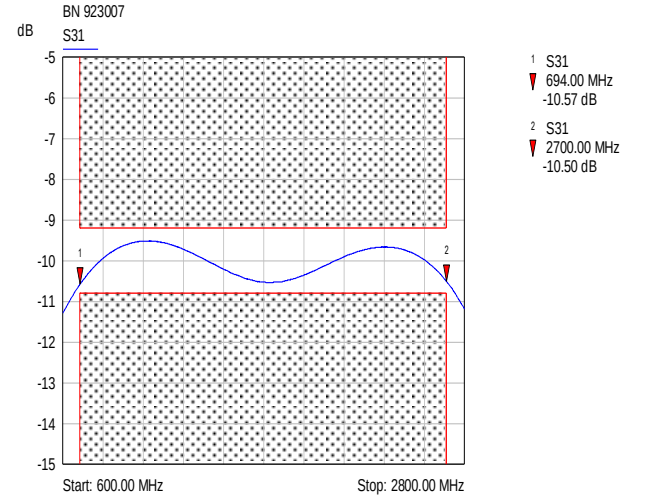
Coupling 7 dB:



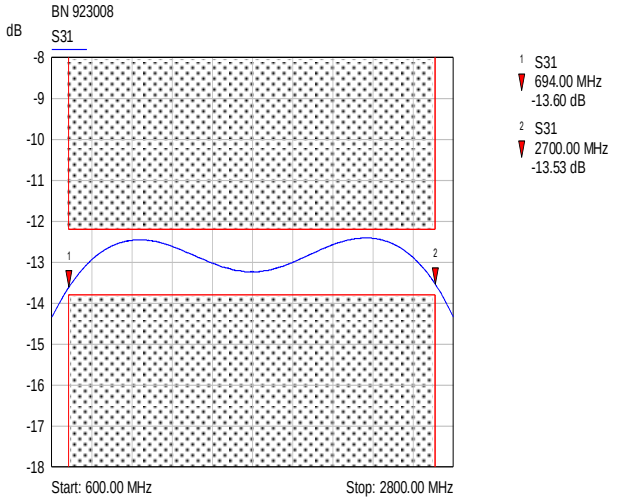
Coupling 8 dB:



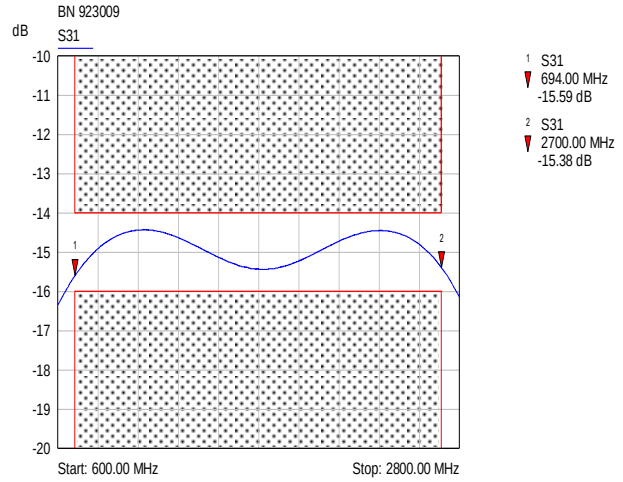
Coupling 10 dB:



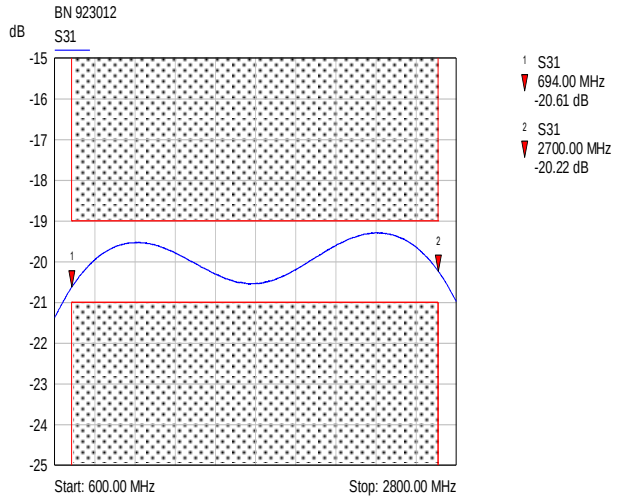
Coupling 13 dB:



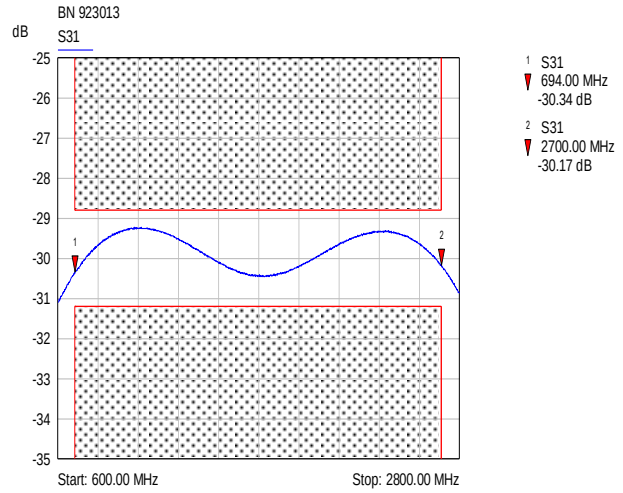
Coupling 15 dB:



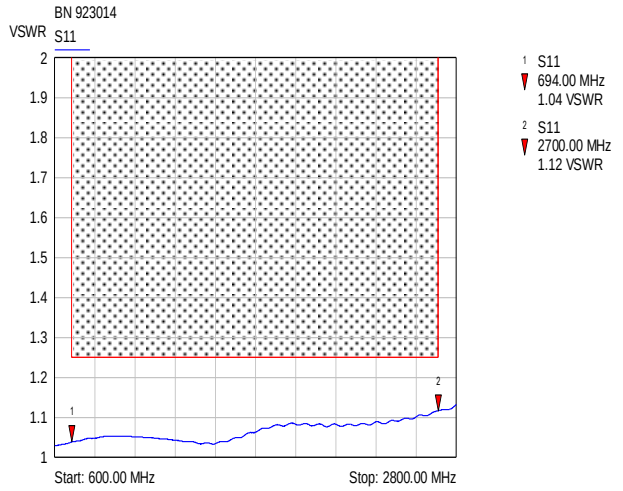
Coupling 20 dB:



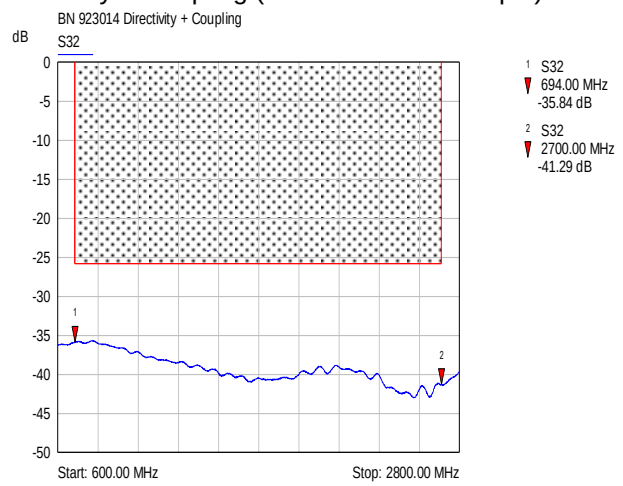
Coupling 30 dB:



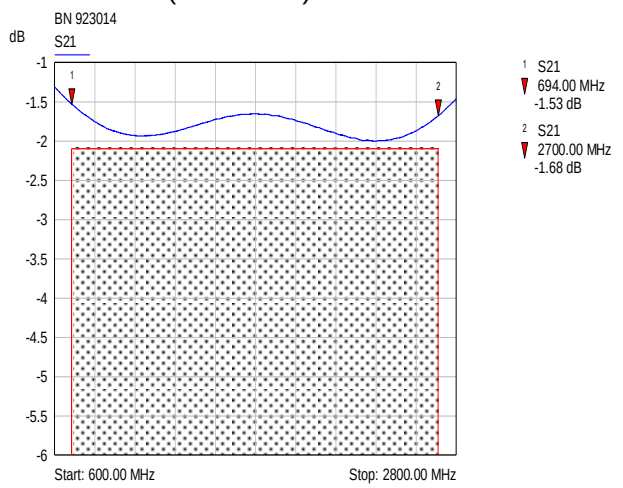
VSWR (BN923014 as example):



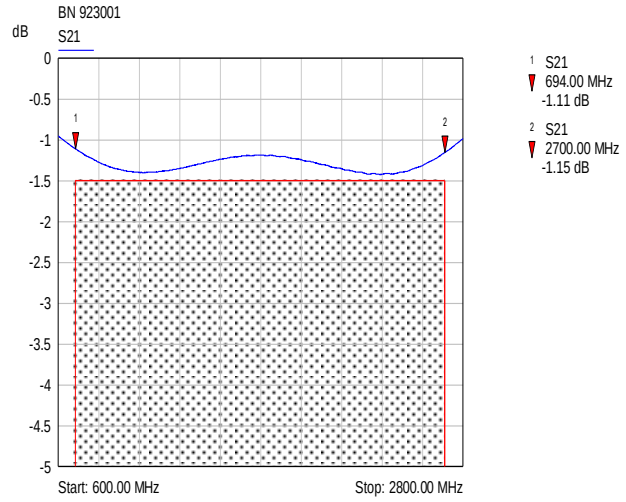
Directivity + Coupling (BN923014 as example):



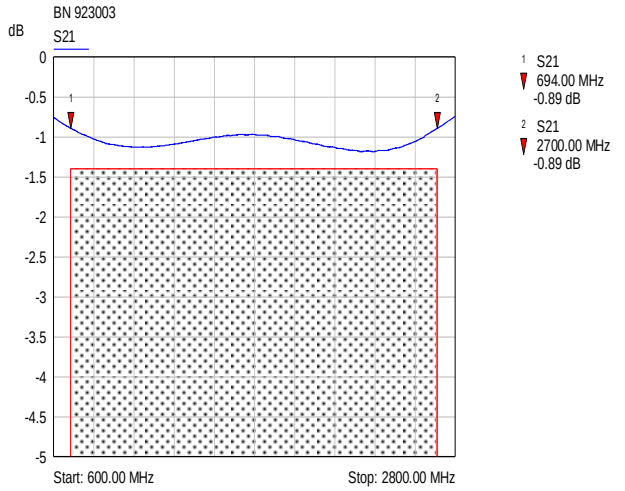
Insertion Loss (BN923014):



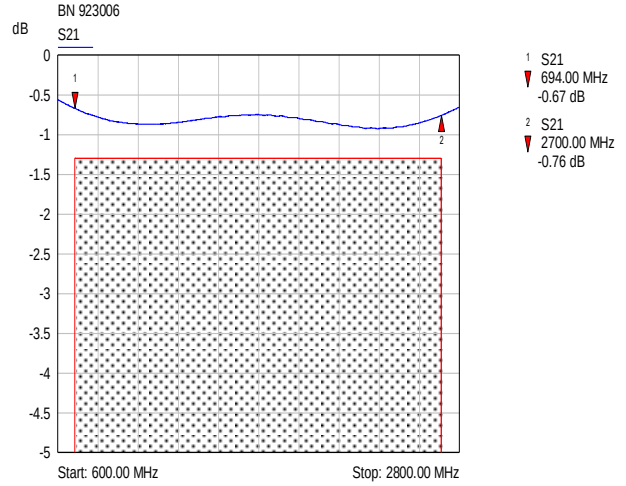
Insertion Loss (BN923001):



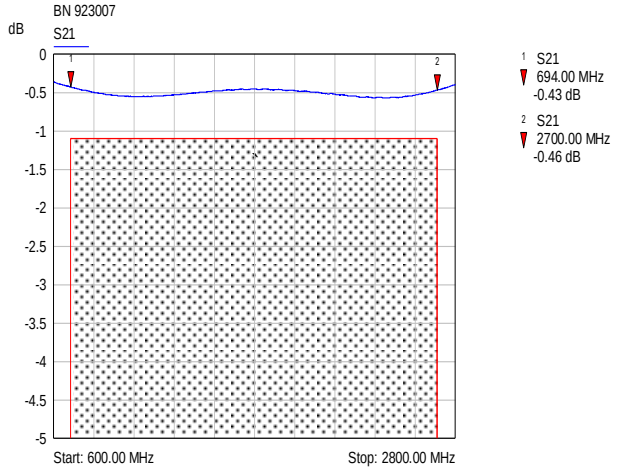
Insertion Loss (BN923003):



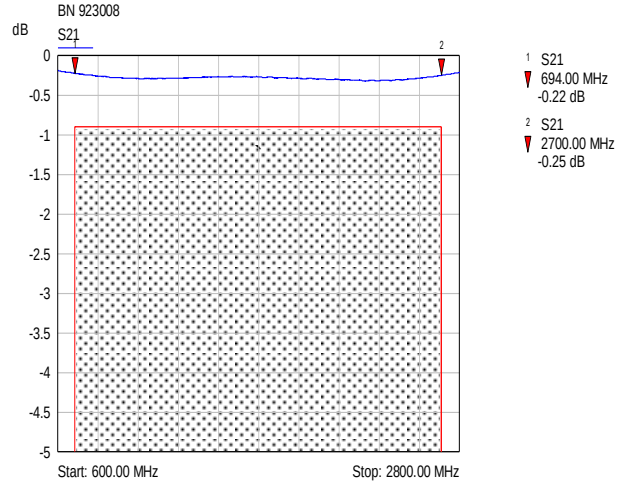
Insertion Loss (BN923006):



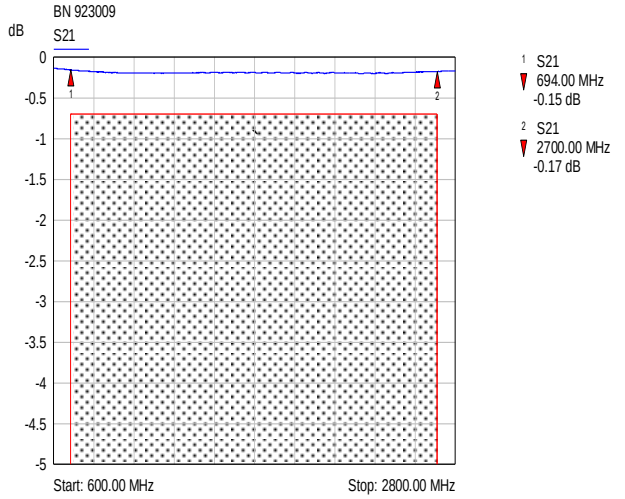
Insertion Loss (BN923007):



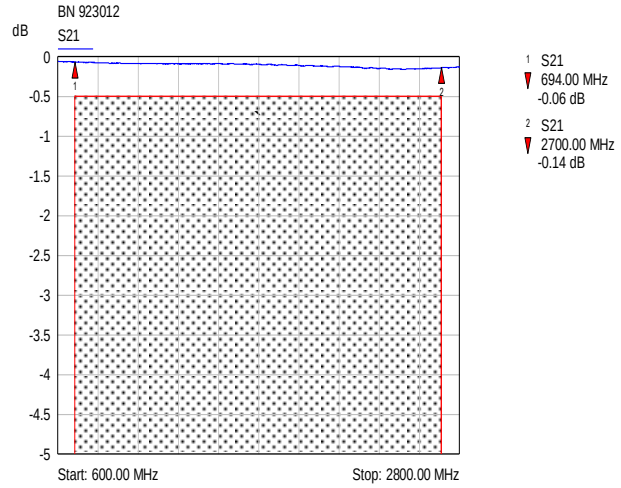
Insertion Loss (BN923008):



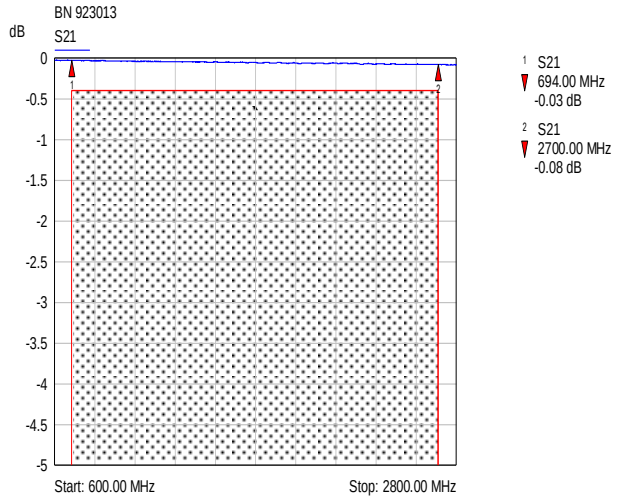
Insertion Loss (BN923009):



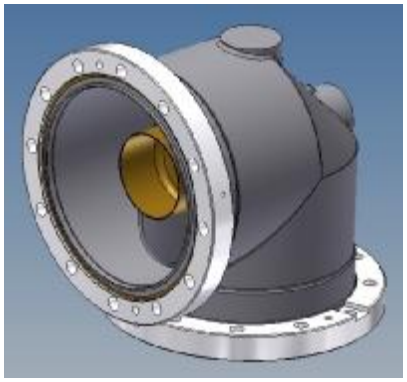
Insertion Loss (BN923012):



Insertion Loss (BN923013):



6 1/8” Elbow 90° || BN 873208



All dimensions in millimeters

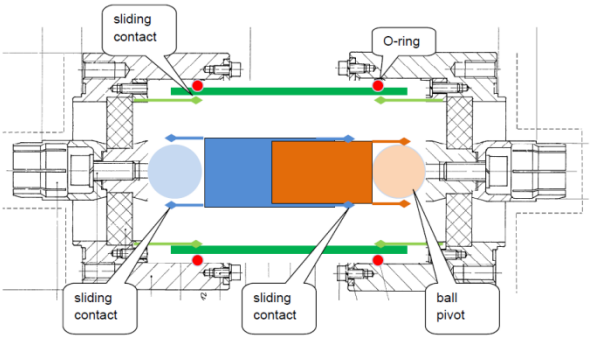
Interface type	2 x EIA 6 1/8“ female, swivel type	
Standards	EN 122150; 339 IEC	
Frequency range	0 to 800 MHz	
Average power, max. *)	100 MHz 230 MHz 800 MHz	≤ 224 kW ≤ 148 kW ≤ 78 kW
VSWR, max.	≤ 1.03	
Proof voltage	28 kV @ sea level 47 kV @ 2 bar absolute 61 kV @ 4 bar absolute	
Inner conductor material / surface finish	copper alloy / silver plated	
Outer conductor material / surface finish	aluminum alloy / SurTec 650 acc. to Mil-DTL 5541 F	
Insulation	PTFE	
Other metal parts	aluminum alloy, stainless steel	
Surface finish	Painting on request (standard is black RAL 9005)	
Absolute operating pressure	$4x10^5$ Pa (4 bar)	
Leakage rate, max.	$5x10^{-4}$ mbar l/s @ absolute operating pressure	
Admissible axial force	acc. to EN 122150	
Weight, approx.	6.66 kg	
Environmental conditions	For limitations see “Environmental Conditions for Broadcast Products” TD-00060	

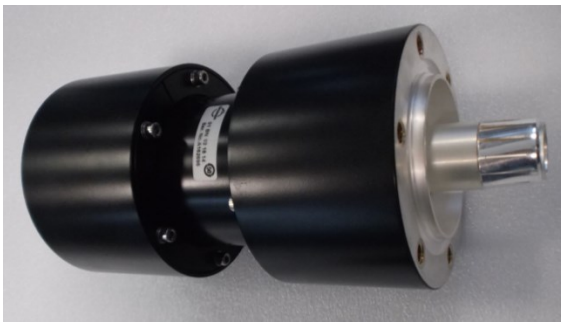
Conditions:

*) At 40°C ambient temperature; 1 bar inner absolute air pressure; inner conductor temperature 150°C

Template TD-00003E

Flexible Line Section 3 1/8” EIA || BN 921814

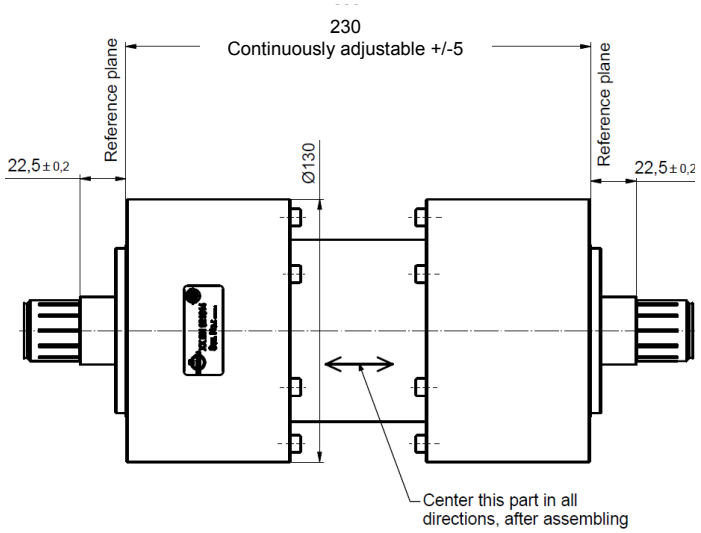




Interface type	3 1/8” EIA (50 Ω) per IEC 60339 with fixed coupling elements on both ends
Frequency range	DC to 1600 MHz
VSWR, max.	1.06 DC to 900 MHz 1.14 below 1600 MHz
Average power capability, max.	11 kW @ 1600 MHz 15 kW @ 860 MHz 29 kW @ 230 MHz 44 kW @ 100 MHz
Proof voltage, max.	14 kV
Attenuation, max.	0.05 dB @ 1600 MHz
Length	230 mm
Length variation, max.	+/- 5 mm
Displacement of flange axles, max.	4 mm
Inclination of flange axles, max.	4°
Inner conductor material / surface finish	copper alloy / silver plated
Outer conductor material / surface finish	copper alloy / silver plated
Case material / surface finish	copper alloy / painted black (RAL9005 black)
Insulation	PTFE
IP protection level	IP40 per EN 60529
Weight, approx.	12.5 kg
Environmental conditions	See „Environmental Conditions for Broadcast Products“ TD-00060
Relative humidity, max.	95% (non-condensing)
Operating position	any
Scope of delivery	protective bag, plastic box

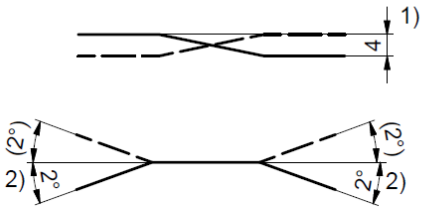
Template TD-00003E

Flexible Line Section 3 1/8” EIA || BN 921814

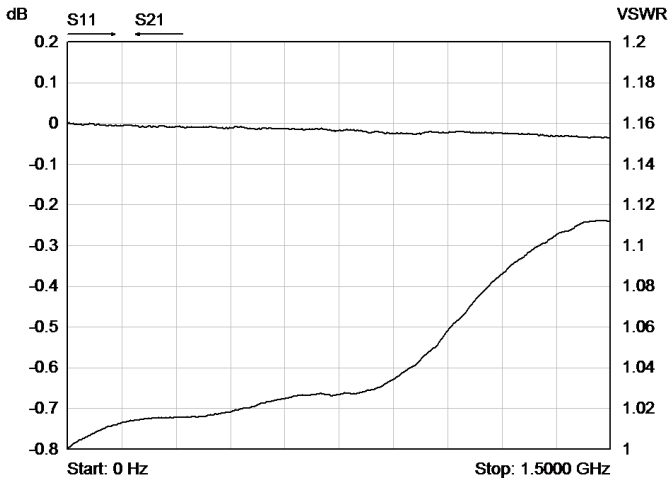


Remarks:

1) Admissible mismatch of the flanges: 4 mm
2) Admissible angle between the flanges: 4°



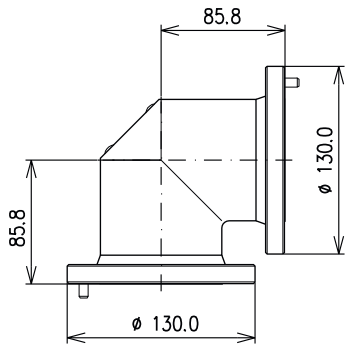
Typical curve



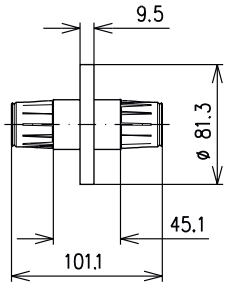
Template TD-00003E

Rigid Line Components 3 1/8" EIA

- Very stable rigid line system
- Low insertion loss
- Low VSWR
- PTFE insulation
- Designed for pressure tight systems
- For outdoor application



90° Elbow
BN 921920



Coupling element
BN 918710

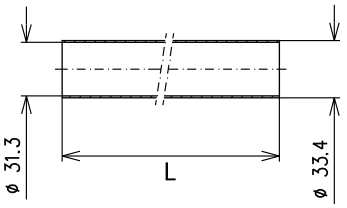
Components

	Length	Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	1.90 kg 3.80 kg	**BN A02415** **BN K22770C0004**
Outer conductor tube (copper)	L = 2 m L = 4 m	5.90 kg 11.80 kg	**BN A02416** **BN K26569C0004**
Rigid line (inner + outer conductor) with fixed flanges, custom-designed length Please define length in mm with your order. Spinner generates a part number extension for every specific length (V****).	0.92 m ≤ L ≤ 2 m 2 m < L ≤ 4 m		**BN 870070V**** **BN 870071V****
Inner support		0.27 kg	**BN 870003**
Fixed flange for brazing		0.75 kg	**BN 004942**
Coupling element incl. screw set		0.58 kg	**BN 918710**
90° Elbow		3.22 kg	**BN 921920**

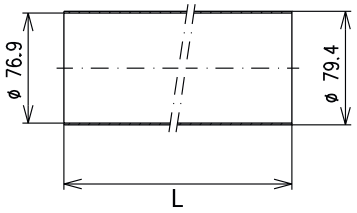
Electrical Data

Impedance		50 Ω
Cut off frequency for H11-Mode		1.6 GHz
Proof voltage at sea level (NN)		14.0 kV
Frequency range		0 ≤ f ≤ 1.3 GHz
Average power at +40 °C ambient temperature	100 MHz 230 MHz 860 MHz	≤ 67.0 kW ≤ 44.0 kW ≤ 23.0 kW
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 860 MHz	0.32 0.48 0.92

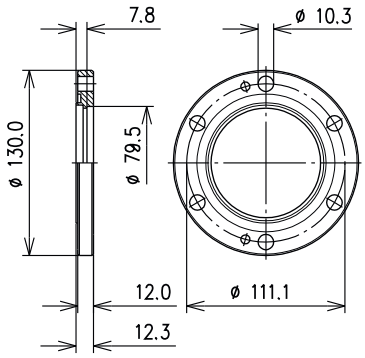
Rigid Line Components 3 1/8" EIA



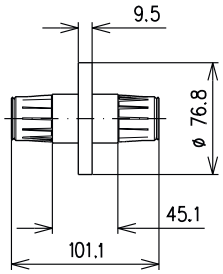
Inner conductor tube
BN A02415; BN K22770



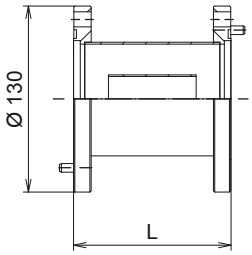
Outer conductor tube (not painted)
BN A02416; BN K26569



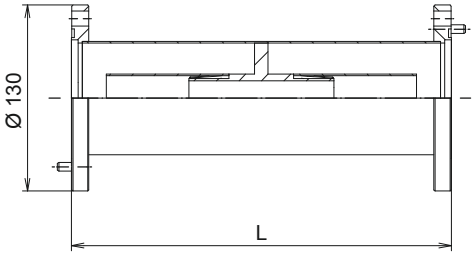
Fixed flange for brazing
BN 004942



Inner support
BN 870003



Rigid line
BN 870070V**



Rigid line
BN 870071V**

Length of rigid line L	Number inner supports required
2.0 m ≤ L ≤ 4.0 m	1