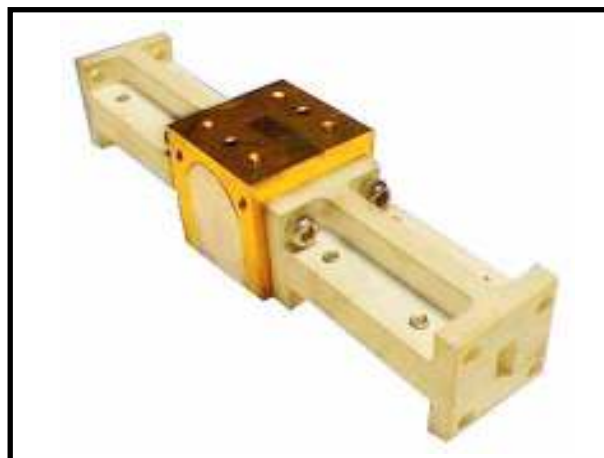


Diplexers (Waveguide & Coaxial)

FEATURES:

- ❖ 0.4 – 110GHz
- ❖ High Isolation
- ❖ Low insertion loss
- ❖ Rugged mechanical construction
- ❖ Coaxial & Waveguide Interface



APPLICATIONS:

- ❖ Outdoor Units
- ❖ Subsystems
- ❖ Transceivers

DESCRIPTION:

CDF & CDFW Series

Cernex's CDF & CDFW Series Coaxial and Waveguide Diplexers are available in major communication frequency band. Existing product offer narrow frequency band to cover common communication bands and North America point-to-point digital radio frequency band from UHF to 75 GHz. These waveguide diplexers consist of two E-plane bandpass filters (BPF) and a circulator. The critical element of E plane BPF is designed by using proprietary simulation tool and fabricated by conventional low cost printed circuit techniques. The diplexers require no tuning, which allows low cost, high volume production. Typical insertion loss for waveguide bandwidth is from 1.0 to 2.0 dB depending on the channel bandwidth and isolation. The frequency stability is around -0.4 MHz/°C with low cost aluminum housing. The existing waveguide product performance is illustrated below (CDFW series). Other frequency bands are also available upon request.

SPECIFICATIONS:

COAXIAL DIPLEXERS : (CDF series)

Model Number	Passband Frequency (GHz)	Insertion Loss (dB) Max.	In-band Ripple (dB) Max.	Rejection (dB) Min.	Power Avg (W) Max.	VSWR Max.	Case Type (mm)
CDFU4U41736B	0.453-0.457475	1.6	-	36@0.459475GHz	-	1.5:1	300 x 156 x 80
	0.463-0.467475	1.7	-	38@0.461GHz	-	1.5:1	300 x 156 x 80
CDFU5U53080B	0.569	3.0	-	80@0.589GHz	-	1.5:1	132 x 109 x 52
	0.589	3.0	-	80@0.569GHz	-	1.5:1	132 x 109 x 52
CDFU9010555B	0.61-0.96	0.5	-	55@1.85GHz	-	1.5:1	42 x 50 x 12
	1.35-1.85	0.5	-	55@0.96GHz	-	1.5:1	42 x 50 x 12
CDFU8U90575B	0.77-0.81	0.5	-	75@0.938GHz	-	1.5:1	139 x 88 x 44
	0.938-0.97	0.5	-	75@0.81GHz	-	1.5:1	139 x 88 x 44
CDFU8U91890B	0.806-0.824	1.2	-	90@0.809-0.851GHz	-	1.3:1	230 x 101.5 x 52
	0.896-0.902	1.8	-	90@DC-0.7GHz	-	1.3:1	230 x 101.5 x 52
CDFU8U80985B	0.824-0.849	0.9	-	85@0.869GHz	-	1.5:1	*
	0.869-0.894	0.7	-	85@0.849GHz	-	1.5:1	*
CDFU8U81580S	0.825-0.835	1.5	-	90@870-880MHz	-	-	136 x 91 x 47
	0.870-0.880	1.5	-	80@825-835MHz	-	-	136 x 91 x 47



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Model Number	Passband Frequency (GHz)	Insertion Loss (dB) Max.	In-band Ripple (dB) Max.	Rejection (dB) Min.	Power Avg (W) Max.	VSWR Max.	Case Type (mm)
CDFU8U81280S	0.825-0.835	1.2	0.5	80@855-870MHz *	20	-	136 x 136 x 51
	0.870-0.880	1.2	0.5	80@DC-825MHz *	20	-	136 x 136 x 51
CDFU8U83082S	0.825-0.835	1.5	0.5	82@870-880MHz *	20	-	192 x 79.6 x 47
	0.870-0.880	3.0	1.2	85@825-835MHz *	20	-	192 x 79.6 x 47
CDFU8U83080S	0.825-0.835	3.0	1.2	85@870-880MHz *	20	-	192 x 79.6 x 47
	0.870-0.880	1.6	0.5	80@825-835MHz *	20	-	192 x 79.6 x 47
CDFU9U91590S	0.89-0.909	1.5	0.5	90@935-954MHz	-	-	192 x 88 x 47
	0.935-0.954	1.5	0.5	90@890-909MHz	-	-	192 x 88 x 47
CDFU9U91075S	0.89-0.915	1.0	0.5	75@935-960MHz *	20	-	270 x 157 x 25.5
	0.935-0.96	1.0	0.6	75@1710-1785MHz *	80	-	270 x 157 x 25.5
CDFU9U91055S	0.89-0.915	0.8	0.5	55@935-960MHz *	20	-	270 x 157 x 25.5
	0.935-0.96	1.0	0.6	55@800-870MHz *	80	-	270 x 157 x 25.5
CDFU9U90785B	0.89-0.915	0.7	-	85@0.935GHz	-	1.5:1	*
	0.935-0.96	0.7	-	85@0.915GHz	-	1.5:1	*
CDFU9U92080S	0.909-0.915	2.0	0.5	80@935MHz	-	-	192 x 60 x 47
	0.954-0.96	2.0	0.5	80@915MHz	-	-	192 x 60 x 47
CDFU9010840B	0.92-0.98	0.8	-	40@1.02GHz	-	1.5:1	226 x 51 x 20
	1.020-1.080	0.8	-	40@0.98GHz	-	1.5:1	226 x 51 x 20
CDF01030550B	0.955-1.22	0.5	-	50@2.85GHz	-	1.5:1	120.5 x 72 x 20.5
	2.85-3.35	0.5	-	50@1.22GHz	-	1.5:1	120.5 x 72 x 20.5
CDF01010550B	1.217-1.237	0.5	-	50@1.565GHz	-	1.5:1	45.6 x 32.4 x 27.4
	1.565-1.585	0.5	-	50@1.237GHz	-	1.5:1	45.6 x 32.4 x 27.4
CDF01011050B	1.21167-1.24367	0.9	-	55@1.29767GHz	-	1.5:1	114 x 72 x 20
	1.557-1.591	1.0	-	50@1.505GHz	-	1.5:1	114 x 72 x 20
CDF01011570S	1.453-1.459	1.5	0.5	70@300-1420MHz	100	-	136 x 30 x 62
	1.519-1.525	1.5	0.5	70@300-1440MHz	100	-	136 x 30 x 62
CDF01011280S	1.455-1.48	1.2	0.5	80@1524-1549MHz	100	-	136 x 30 x 91
	1.524-1.549	1.2	0.5	80@1455-1480MHz	100	-	136 x 30 x 91
CDF01011740B	1.622-1.666	1.7	-	60@1.559/1.729GHz	-	1.5:1	223.3 x 32.5 x 16
	1.714-1.744	1.7	-	40@1.669/1.789GHz	-	1.5:1	223.3 x 32.5 x 16
CDF01011590S	1.710-1.755	1.5	0.5	90	100	-	192 x 88 x 31
	1.805-1.85	1.5	0.5	90	100	-	192 x 88 x 31
CDF01012085S	1.71-1.785	2.0	1.4	85	100	-	192 x 88 x 31
	1.805-1.88	2.0	1.4	85	100	-	192 x 88 x 31
CDF01020750B	1.71-1.88	0.7	-	50@1.92GHz	-	1.5:1	166 x 40 x 23
	1.92-2.17	0.5	-	50@1.88GHz	-	1.5:1	166 x 40 x 23
CDF01020860B	1.893-1.92	0.8	-	75@2.4/2.485GHz	-	1.2:1	79 x 58 x 27
	2.4-2.485	0.5	-	60@1.893/1.92GHz	-	1.2:1	79 x 58 x 27



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Model Number	Passband Frequency (GHz)	Insertion Loss (dB) Max.	In-band Ripple (dB) Max.	Rejection (dB) Min.	Power Avg (W) Max.	VSWR Max.	Case Type (mm)
	2.4-2.484	0.6	0.3	80@1900-2170MHz	100	1.2:1	217 x 180 x 31
CDF01021080S	1.920-1.980	1.0	0.6	80@1770-2030MHz *	80	1.25:1	230 x 162 x 53
	2.11-2.17	1.0	0.6	80@1700-2030MHz *	80	1.25:1	230 x 162 x 53
CDF01020440S	1.920-1.980	0.45	0.3	40@2110-2170MHz	-	1.2:1	281 x 188 x 49
	2.11-2.17	0.4	0.15	60@1920-1980MHz	-	1.2:1	281 x 188 x 49
CDF02020560B	2.4-2.48	0.5	-	60@2.68/2.72GHz	-	1.5:1	102 x 32 x 28
	2.68-2.72	0.7	-	60@2.48/2.68GHz	-	1.5:1	102 x 32 x 28
CDF03031570B	3.4-3.43	1.2	-	70@3.5GHz	-	1.5:1	120 x 91 x 21.2
	3.5-3.53	1.5	-	70@3.43GHz	-	1.5:1	120 x 91 x 21.2
CDF03031150B	3.4-3.43	1.1	-	70@3.5GHz	-	1.5:1	120 x 91 x 21.2
	3.5-3.53	1.0	-	50@3.43GHz	-	1.5:1	120 x 91 x 21.2
CDF03054950B	3.8	4.9	-	50@3.6/4.0GHz	-	1.5:1	134.4 x 19.5 x 11
	5.3	4.9	-	50@5.1/5.5GHz	-	1.5:1	134.4 x 19.5 x 11
CDF05052960B	5.2725-5.7525	2.9	-	60@5.67GHz	-	1.5:1	84 x 77 x 23
	5.7975-5.8225	2.9	-	60@5.88GHz	-	1.5:1	84 x 77 x 23
CDF05052260B	5.74	2.0	-	60@5.81GHz	-	1.5:1	99 x 17 x 29
	5.81	2.2	-	60@5.74GHz	-	1.5:1	99 x 17 x 29
CDF10110970B	10.1-10.5	0.9	-	70@10.9GHz	-	1.5:1	*
	10.9-11.3	0.9	-	70@10.5GHz	-	1.5:1	*

Waveguide: (CDFW series)

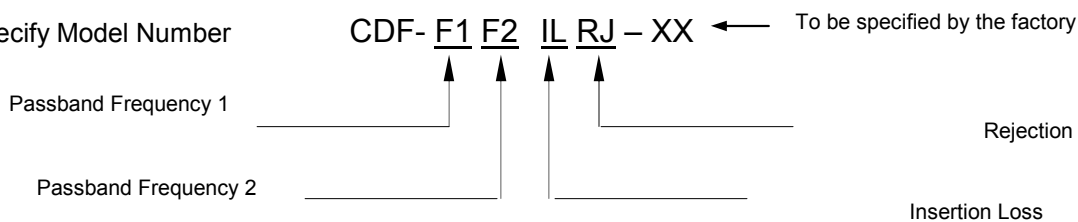
Product	Waveguide Size	Passband Frequency (GHz)	Bandwidth (MHz)	Insertion Loss (dB)	Channel Isolation (dB)	VSWR
A	WR-42	17.7-18.1/18.7-19.1	-	1.5	40	1.25
B	WR-42	18.0-18.4/19.0-19.4	-	1.5	40	1.25
C	WR-42	18.3/18.7/19.3-19.7	-	1.5	40	1.25
D	WR-34	23/26.25	1000	1.5	60	1.5:1
E	WR-34	24.6/25.8	180	1.6	45	1.4:1
F	WR-34	27.75/31.15	-	1.5	40	1.25
G	WR-28	27.5-28.2/31.0-31.3	-	1.8	40	1.25
H	WR-28	31.8/33.0	400	1.5	45	1.4:1
I	WR-28	37.5/38.5	350	1.8	40	1.3:1
J	WR-28	37.0-37.35/37.7-38.05	-	1.8	40	1.25
K	WR-28	37.35-37.7/38.05-38.4	-	1.8	40	1.25

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Product	Waveguide Size	Passband Frequency (GHz)	Bandwidth (MHz)	Insertion Loss (dB)	Channel Isolation (dB)	VSWR
L	WR-28	38.6-38.95/39.3-39.65	-	1.8	40	1.25
M	WR-28	38.95-39.3/39.65-40.0	-	1.8	40	1.25
N	WR-28	37.05-37.65/38.31-38.91	-	1.8	40	1.25
O	WR-28	37.60-38.20/38.86-39.46	-	1.8	40	1.25
P	WR-22	41.50/43.50	700	1.5	45	1.4:1
Q	WR-15	58.00-62.00	-	2.0	40	1.25
R	WR-15	58.00/63.00	1000	1.5	50	1.3:1
S	WR-15	58.50/60.50	800	2.5	50	1.5:1
T	WR-12	73.50/83.50	5000	2.0	50	1.5:1

HOW TO ORDER:

Specify Model Number



Example: To order a diplexer with F1 at 20GHz and F2 at 21 GHz with an insertion loss of 2dB and a rejection of 40dB, specify CDF-20212040-XX.

NOTES: * CONSULT THE FACTORY

CERNEX RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE.