

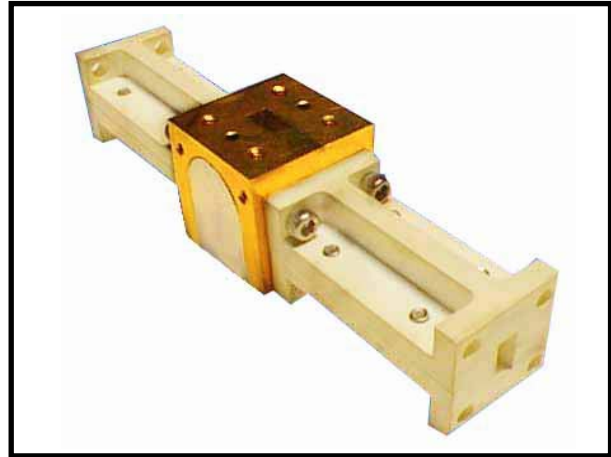
Diplexers (Waveguide & Coaxial)

FEATURES:

- ❖ 0.4 – 110GHz
- ❖ High Isolation
- ❖ Low insertion loss
- ❖ Rugged mechanical construction

APPLICATIONS:

- ❖ Outdoor Units
- ❖ Subsystems
- ❖ Transceivers



DESCRIPTION:

CDF Series

Cernex CDF Series Waveguide Diplexers are available in major communication frequency band. Existing product offer narrow frequency band to cover common North America point-to-point digital radio frequency band from 18 to 65 GHz. These 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 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 product performance is illustrated below. Other frequency bands are also available upon request.

SPECIFICATIONS:

COAXIAL DIPLEXERS:

Model Number	Passband Frequency (GHz)	Insertion Loss (dB) Max.	In-band Ripple (dB) Max.	Rejection (dB) Min.	Power Avg (W) Max.	VSW R 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
CDFU8U81280S	0.825-0.835	1.2	0.5	80@855-870MHz *	20	-	136 x 136 x 51

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	0.870-0.880	1.2	0.5	80@DC-825MHz *	20	-	136 x 136 x 51
CDFU8U81515H	0.825-0.835	1.5	0.6	15@fc±5MHz	100	1.2:1	136 x 91 x 40
	0.870-0.880	1.5	0.6	15@fc±5MHz	100	1.2:1	136 x 91 x 40
CDFU8U80910H	0.825-0.835	0.9	0.4	10@850MHz *	100	1.2:1	180 x 138 x 36.3
	0.870-0.880	0.9	0.4	15@885MHz *	100	1.2:1	180 x 138 x 36.3
CDFU8U82160H	0.825-0.835	2.1	0.5	40@fc±2.5MHz	100	1.25:1	336 x 84 x 59
	0.870-0.880	2.1	0.5	60@fc±10MHz	100	1.25:1	336 x 84 x 59
CDFU8U81916H	0.825-0.835	1.9	0.5	16@fc±2.5MHz	100	1.2:1	140 x 120 x 36
	0.870-0.880	1.9	0.5	30@fc±10MHz	100	1.2:1	140 x 120 x 36
CDFU8U81630H	0.825-0.835	1.6	0.6	55@fc±10MHz *	100	1.25:1	223 x 150 x 47
	0.870-0.880	1.4	0.4	30@fc±10MHz *	100	1.25:1	223 x 150 x 47
CDFU8U81820H	0.825-0.835	1.8	0.6	20@fc±2.5MHz *	100	1.22:1	200 x 140 x 51
	0.870-0.880	1.8	0.6	20@fc±2.5MHz *	100	1.22:1	200 x 140 x 51
CDFU8U82140H	0.825-0.835	2.1	1.0	40@fc±2.5MHz	100	1.25:1	160 x 174 x 60
	0.870-0.880	2.1	1.0	40@fc±2.5MHz	100	1.25:1	160 x 174 x 60
CDFU8U81640H	0.825-0.835	1.6	1.0	40@806-821MHz	100	1.2:1	158 x 144 x 48
	0.870-0.880	1.6	1.0	40@885-915MHz	100	1.2:1	158 x 144 x 48
CDFU8U83008H	0.825-0.835	1.75	0.8	8@fc±2.5MHz *	100	1.22:1	104 x 104 x 40
	0.870-0.880	3.0	1.3	32@fc±2.5MHz *	100	1.22:1	104 x 104 x 40
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
CDFU9U91630H	0.885-0.909	1.6	0.6	30@878.5MHz	100	1.25:1	172 x 88 x 37
	0.930-0.954	1.6	0.6	30@878.5MHz	100	1.25:1	172 x 88 x 37
CDFU9U91418H	0.885-0.909	1.4	0.5	18@fc±5MHz *	-	1.25:1	330 x 84 x 60
	0.930-0.954	0.9	1.4	18@fc±5MHz *	-	1.25:1	330 x 84 x 60
CDFU9U91583H	0.89-0.909	1.5	0.5	83	100	1.2:1	176 x 180 x 39
	0.935-0.945	1.5	0.5	83	100	1.2:1	176 x 180 x 39
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
CDFU9U91278H	0.89-0.909	1.2	0.6	78	100	1.25:1	172 x 88 x 40
	0.935-0.954	1.2	0.6	78	100	1.25:1	172 x 88 x 40
CDFU9U91273H	0.89-0.909	1.2	0.6	73	80	1.25:1	188 x 80 x 35
	0.935-0.954	1.2	0.6	73	80	1.25:1	188 x 80 x 35
CDFU9U90889H	0.89-0.909	0.8	0.3	89	300	1.2:1	214 x 94 x 50
	0.935-0.954	0.8	0.3	89	300	1.2:1	214 x 94 x 50
CDFU9U91540H	0.89-0.909	1.5	0.6	40@835-800MHz *	100	1.25:1	104 x 104 x 37

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	0.935-0.954	1.5	0.6	40@975-1010MHz *	100	1.25:1	104 x 104 x 37
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	*
CDFU9U91530H	0.89-0.915	1.5	0.4	30@870MHz *	100	1.2:1	178 x 96 x 27
	0.935-0.96	1.5	0.4	30@980MHz *	100	1.2:1	178 x 96 x 27
CDFU9U91540H	0.89-0.915	1.5	0.6	40	100	1.25:1	172 x 88 x 37
	0.935-0.960	1.5	0.6	40	100	1.25:1	172 x 88 x 37
CDFU9U91570H	0.89-0.915	1.5	0.6	70@935-960MHz *	100	1.25:1	104 x 104 x 40
	0.935-0.960	1.5	0.6	70@890-915MHz *	100	1.25:1	104 x 104 x 40
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
CDFU9U91515H	0.909-0.915	1.5	0.6	15@fc±5MHz	100	1.2:1	136.3 x 91 x 40.4
	0.954-0.96	1.5	0.6	15@fc±5MHz	100	1.2:1	136.3 x 91 x 40.4
CDFU9U92088H	0.909-0.915	2.0	0.6	88	100	1.25:1	244 x 61 x 47
	0.954-0.96	2.0	0.6	88	100	1.25:1	244 x 61 x 47
CDFU9U92070H	0.909-0.915	2.0	0.6	70@895MHz *	100	1.25:1	260 x 62 x 49
	0.954-0.96	2.0	0.6	70@915-980MHz *	100	1.25:1	260 x 62 x 49
CDFU9U91578H	0.909-0.915	1.5	0.8	78	100	1.22:1	172 x 88 x 37
	0.954-0.96	1.5	0.8	78	100	1.22:1	172 x 88 x 37
CDFU9U91840H	0.909-0.915	1.8	0.6	40@928.5MHz *	100	1.2:1	168 x 80 x 39
	0.954-0.96	1.8	0.6	40@973.5MHz *	100	1.2:1	168 x 80 x 39
CDFU9U92520H	0.909-0.915	2.5	1.0	20@fc±5MHz	-	1.25:1	158 x 144 x 48
	0.954-0.96	2.5	1.0	20@fc±5MHz	-	1.25:1	158 x 144 x 48
CDFU9U91580H	0.909-0.915	1.5	0.6	80@960-3000MHz *	100	1.25:1	104 x 104 x 40
	0.954-0.96	1.5	0.6	80@1010-3000MHz *	100	1.25:1	104 x 104 x 40
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

Diplexers (Waveguide & Coaxial)

Model Number	Passband Frequency (GHz)	Insertion Loss (dB) Max.	In-band Ripple (dB) Max.	Rejection (dB) Min.	Power Avg (W) Max.	VSW R Max.	Case Type (mm)
	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
CDF01011680H	1.745-1.751	1.6	0.5	80@(1.846G-3G/300M-1.6G)	100	1.22:1	136 x 62 x 30
	1.840-1.846	1.6	0.5	80@(300M-1.745G/1.920G-3G)	100	1.22:1	136 x 62 x 30
CDF01011670H	1.885-1.890	1.6	0.6	70@fc±30MHz *	100	1.2:1	162 x 142 x 33
	1.965-1.970	1.6	0.6	70@fc±30MHz *	100	1.2:1	162 x 142 x 33
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
CDF01020680H	1.900-1.980	0.6	0.3	85@2400-2483.5MHz	100	1.2:1	217 x 180 x 31
	2.11-2.17	0.6	0.3	85@2400-2483.5MHz	100	1.2:1	217 x 180 x 31
	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
CDF01021210H	1.920-1.980	0.8	0.4	10@1.91-1.99GHz *	100	1.2:1	174 x 88 x 31
	2.11-2.17	1.0	0.6	10@2.11-2.18GHz *	100	1.2:1	174 x 88 x 31
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

Diplexers (Waveguide & Coaxial)

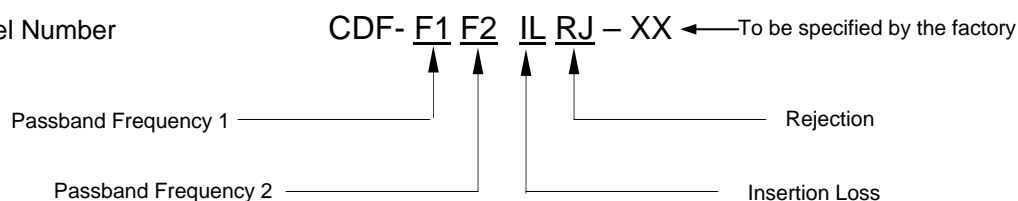
Model Number	Passband Frequency (GHz)	Insertion Loss (dB) Max.	In-band Ripple (dB) Max.	Rejection (dB) Min.	Power Avg (W) Max.	VSW R Max.	Case Type (mm)
CDF10110970B	10.1-10.5	0.9	-	70@10.9GHz	-	1.5:1	*
	10.9-11.3	0.9	-	70@10.5GHz	-	1.5:1	*

Waveguide:

Product	Waveguide Size	Passband Frequency (GHz)	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	27.75/31.15	1.5	40	1.25
E	WR-28	27.5-28.2/31.0-31.3	1.8	40	1.25
F	WR-28	37.0-37.35/37.7-38.05	1.8	40	1.25
G	WR-28	37.35-37.7/38.05-38.4	1.8	40	1.25
H	WR-28	38.6-38.95/39.3-39.65	1.8	40	1.25
I	WR-28	38.95-39.3/39.65-40.0	1.8	40	1.25
J	WR-28	37.05-37.65/38.31-38.91	1.8	40	1.25
K	WR-28	37.60-38.20/38.86-39.46	1.8	40	1.25
L	WR-15	58.00-62.00	2.0	40	1.25

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.