DOCSIS 4.0
READY

1.8 GHz

Outdoor RF passives

4RTPx-xx

1.8 GHz ROTATABLE TAPS

The 1.8 GHz Rotatable Taps are high performance passives that can be installed with faceplates fitted in either left or right positions thus giving the operator the ability to reverse the signal direction as needed. The signal and power are constantly present on IN and OUT ports while the Tap ports are used to feed the subscriber outlets. The 1.8 GHz taps Series offers a wide range of different line taps that meet frequency range up to 1800 MHz. All the housings are well screened to meet and exceed the Cenelec Class A+ (=Class A +10dB) standards.

1.8 GHz Rotatable Taps features

- Frequency range up to 1.8 GHz, DOCSIS 4.0 compliant
- High performance for Extreme environmental conditions
- The faceplate can be mounted either way around on the housing depending on the direction of signal travel required
- Weather resistant powder coating
- F-ports DC blocked for extended surge resistance
- Weatherproof F connectors with Epoxy sealing (IP68)
- Surge withstand complies to global surge immunity Standards IEC 61000-4-5 and IEEE C62.41
- Optional power and signal bypass switch

TELESTE

OUTDOOR RF PASSIVES / 1.8 GHZ ROTATABLE TAPS

ELECTRICAL SPECIFICATIONS - 2-WAY TAPS (4RTP2-xx)											
Frequency range (MHz)		4T	8	11	14	17	20	23	26	29	32	35
Insertion loss (dB, Max.) - In to Out												
5 - 10 [1]		T	3.6	1.8	1.4	1.2	1.0	0.9	0.9	0.9	0.9	0.9
10 - 65		T	3.6	1.8	1.4	1.2	1.0	0.9	0.9	0.9	0.9	0.9
65 - 300		T	4.0	2.0	1.5	1.2	1.1	1.0	1.0	1.0	1.0	1.0
300 - 550		T	4.2	2.4	1.8	1.5	1.3	1.3	1.3	1.3	1.3	1.3
550 - 750		T	4.5	2.6	1.8	1.6	1.3	1.3	1.5	1.5	1.5	1.5
750 - 862		T	4.8	2.9	2.1	1.8	1.5	1.5	1.5	1.5	1.5	1.5
862 - 1000		T	5.0	3.0	2.2	1.9	1.7	1.7	1.7	1.6	1.6	1.6
1000 - 1218		T	5.2	3.4	2.3	2.1	1.9	1.9	1.9	1.9	1.9	1.9
1218 - 1500		T	5.6	3.7	2.8	2.6	2.4	2.4	2.4	2.4	2.4	2.4
1500 - 1700		T	6.3	4.2	3.4	2.9	2.8	2.8	2.8	2.8	2.8	2.8
1700 - 1800		T	6.5	4.7	3.6	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Insertion loss (dB, Max.) - In to Tap												
	(tolerance)											
5 - 10	±1.0	4.0	8.0	11.0	14.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
10 - 65	±1.0	4.0	8.0	11.0	14.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
65 - 860	±1.0	4.0	8.0	11.0	14.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
860 - 1218	±1.5	4.0	8.0	11.5	14.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
1218 - 1500	±2.0	4.5	9.0	11.5	14.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
1500 - 1700	±2.0	5.0	9.5	12.0	14.5	17.0	20.0	23.0	26.0	29.0	32.0	35.0
1700 - 1800	±2.0	5.0	10.0	12.5	14.5	17.0	20.0	23.0	26.0	29.0	32.0	35.0
Isolation (dB, Min.) - Out to Tap												
5 - 15 [1]		T	27.0	29.0	30.0	31.0	33.0	35.0	36.0	38.0	39.0	41.0
15 - 65		T	27.0	29.0	30.0	31.0	33.0	35.0	36.0	38.0	39.0	41.0
65 - 860		T	25.0	27.0	28.0	30.0	31.0	33.0	34.0	36.0	37.0	39.0
860 - 1218		T	23.0	25.0	26.0	28.0	29.0	31.0	32.0	34.0	35.0	37.0
1218 - 1500		T	21.0	21.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
1500 - 1700		T	21.0	21.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
1700 - 1800		T	21.0	21.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Isolation (dB, Min.) - Tap to Tap												
5 - 15 [1]		26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
15 - 65		22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
65 - 860		24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
860 - 1218		22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
1218 - 1500		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
1500 - 1700		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
1700 - 1800		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Return loss (dB, Min.) - Input/Output												
5 - 15 [2]		18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
15 - 47		17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
47 - 950		17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
950 - 1218		16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
1218 - 1500		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1500 - 1700		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1700 - 1800		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Return loss (dB, Min.) - Tap												
5 - 15 [2]		18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
15 - 47		17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
47 - 950		17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
950 - 1218		16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
1218 - 1500		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1500 - 1700		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1700 - 1800		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0

OUTDOOR RF PASSIVES / 1.8 GHZ ROTATABLE TAPS

ELECTRICAL SPECIFICATIONS - 4-WAY TAPS (4RTP4-xx)											
Frequency range (MHz)	(Tolerance)	8T	11	14	17	20	23	26	29	32	35
Insertion loss (dB, Max.) - In to Out											
5 - 10 [1]		T	3.6	2.0	1.3	1.2	1.0	0.9	0.9	0.9	0.9
10 - 65		T	3.6	2.0	1.3	1.2	1.0	0.9	0.9	0.9	0.9
65 - 300		T	4.0	2.0	1.5	1.2	1.1	1.0	1.0	0.9	0.9
300 - 550		T	4.3	2.4	1.8	1.5	1.3	1.3	1.3	1.3	1.3
550 - 750		T	4.5	2.6	1.9	1.6	1.3	1.5	1.5	1.5	1.5
750 - 862		T	4.8	2.7	2.0	1.7	1.5	1.7	1.6	1.6	1.6
862 - 1000		T	5.0	3.0	2.1	2.0	1.7	1.8	1.7	1.7	1.7
1000 - 1218		T	5.3	3.4	2.3	2.2	1.9	2.0	1.9	1.9	1.9
1218 - 1500		T	5.6	3.7	2.8	2.7	2.4	2.5	2.5	2.5	2.5
1500 - 1700		T	6.3	4.2	3.4	3.0	2.8	2.8	2.8	2.8	2.8
1700 - 1800		T	6.5	4.7	3.6	3.3	3.2	3.2	3.2	3.2	3.2
Insertion loss (dB, Max.) - In to Tap											
5 - 10	±1.0	8.0	11.0	14.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
10 - 65	±1.0	8.0	11.0	14.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
65 - 860	±1.0	8.0	11.0	14.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
860 - 1218	±1.5	8.0	11.0	14.5	17.0	20.0	23.0	26.0	29.0	32.0	35.0
1218 - 1500	±2.0	8.5	12.0	14.5	17.0	20.0	23.0	26.0	29.0	32.0	35.0
1500 - 1700	±2.0	9.0	12.5	15.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
1700 - 1800	±2.0	9.0	13.0	15.5	17.5	20.0	23.0	26.0	29.0	32.0	35.0
Isolation (dB, Min.) - Out to Tap											
5 - 15 [1]		T	29.0	30.5	32.0	33.5	35.0	36.5	38.0	39.5	41.0
15 - 65		T	22.0	22.0	32.0	33.0	35.0	36.0	38.0	39.0	41.0
65 - 860		T	27.0	28.0	29.0	31.0	32.0	34.0	36.0	37.0	39.0
860 - 1218		T	25.0	26.0	28.0	29.0	31.0	32.0	34.0	35.0	37.0
1218 - 1500		T	23.0	23.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0
1500 - 1700		T	23.0	23.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0
1700 - 1800		T	23.0	23.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0
Isolation (dB, Min.) - Tap to Tap											
5 - 15 [1]		26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
15 - 65		22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
65 - 860		24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
860 - 1218		22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
1218 - 1500		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
1500 - 1700		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
1700 - 1800		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Return loss (dB, Min.) - Input/Output											
5 - 15 [2]		18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
15 - 47		17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
47 - 950		17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
950 - 1218		16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
1218 - 1500		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1500 - 1700		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1700 - 1800		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Return loss (dB, Min.) - Tap											
5 - 15 [2]		18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
15 - 47		17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
47 - 950		17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
950 - 1218		16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
1218 - 1500		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1500 - 1700		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1700 - 1800		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0

OUTDOOR RF PASSIVES / 1.8 GHZ ROTATABLE TAPS

ELECTRICAL SPECIFICATIONS - 8-WAY TAPS (4RTP8-xx)											
Frequency range (MHz)	(Tolerance)	8	11T	14	17	20	23	26	29	32	35
Insertion loss (dB, Max.) - In to Out											
5 - 10 [1]		NA	T	3.6	2.0	1.5	1.2	1.0	0.9	0.9	0.9
10 - 65		NA	T	3.6	2.0	1.5	1.2	1.0	0.9	0.9	0.9
65 - 300		NA	T	3.8	2.0	1.6	1.2	1.1	1.0	0.9	0.9
300 - 550		NA	T	4.3	2.4	1.9	1.6	1.3	1.3	1.3	1.3
550 - 750		NA	T	4.5	2.6	2.1	1.6	1.5	1.6	1.5	1.5
750 - 862		NA	T	4.8	2.9	2.3	1.9	1.7	1.8	1.7	1.7
862 - 1000		NA	T	5.0	3.0	2.5	2.0	1.8	1.8	1.8	1.8
1000 - 1218		NA	T	5.2	3.4	2.6	2.2	2.0	2.0	2.0	2.0
1218 - 1500		NA	T	5.6	3.7	3.0	2.5	2.3	2.3	2.3	2.3
1500 - 1700		NA	T	6.3	4.2	3.3	3.0	2.8	2.8	2.8	2.8
1700 - 1800		NA	T	6.5	4.7	3.6	3.3	3.2	3.2	3.2	3.2
Insertion loss (dB, Max.) -In to Tap											
5 - 10	±1.0	NA	11.0	14.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
10 - 65	±1.0	NA	11.0	14.0	17.0	20.0	23.0	26.0	29.0	32.0	35.0
65 - 860	±1.0	NA	11.0	14.0	17.5	20.0	23.0	26.0	29.0	32.0	35.0
860 - 1218	±1.5	NA	11.0	14.0	17.5	20.0	23.0	26.0	29.0	32.0	35.0
1218 - 1500	±2.0	NA	11.5	15.0	17.5	20.0	23.0	26.0	29.0	32.0	35.0
1500 - 1700	±2.0	NA	12.0	15.5	18.0	20.5	23.0	26.0	29.0	32.0	35.0
1700 - 1800	±2.0	NA	13.0	16.0	18.5	20.5	23.0	26.0	29.0	32.0	35.0
Isolation (dB, Min.) - Out to Tap											
5 - 15 [1]		NA	T	30.5	32.0	33.5	35.0	36.5	38.0	39.5	41.0
15 - 65		NA	T	22.0	22.0	26.0	30.0	33.0	36.0	39.0	41.0
65 - 860		NA	T	28.0	28.0	31.0	33.0	34.0	36.0	37.0	39.0
860 - 1218		NA	T	26.0	26.0	28.0	29.0	32.0	34.0	35.0	37.0
1218 - 1500		NA	T	23.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0
1500 - 1700		NA	T	23.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0
1700 - 1800		NA	T	23.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0
Isolation (dB, Min.) - Tap to Tap											
5 - 15 [1]		NA	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
15 - 65		NA	22.0	22.0	20.0	22.0	22.0	22.0	22.0	22.0	22.0
65 - 860		NA	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
860 - 1218		NA	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
1218 - 1500		NA	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
1500 - 1700		NA	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
1700 - 1800		NA	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Return loss (dB, Min.) - Input/Output											
5 - 15 [2]		NA	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
15 - 47		NA	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
47 - 950		NA	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
950 - 1218		NA	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
1218 - 1500		NA	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1500 - 1700		NA	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1700 - 1800		NA	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Return loss (dB, Min.) - Tap											
5 - 15 [2]		NA	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
15 - 47		NA	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
47 - 950		NA	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
950 - 1218		NA	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
1218 - 1500		NA	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1500 - 1700		NA	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1700 - 1800		NA	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0

OUTDOOR RF PASSIVES / 1.8 GHZ ROTATABLE TAPS

GENERAL SPECIFICATIONS

Frequency range (MHz)	5 - 1800 MHz	**Nominal impedance**	75 Ohm
Operating temperature range	-40 ... +65 °C	**Enclosure classification**	IP68 to IEC 60529 Edition 2.1:2001-02 IPx8

Connectors	**TAP**		**IN-OUT**	
	Type	F connector	Type	5/8”-24 female
	Compliance	ANSI/SCTE 2015 01, IEC61169-24 2010		
	Body	Material: Brass + Plating: NiSn		
	Inner contact	Material: Beryllium Copper + Plating: NiSn		
	Acceptance dia. range	0.7 - 1.2 mm		
	Clamp force	≥ 115 gr. @ 0.7 mm pin		
	Torque	Nom. tightning torque 4.5 Nm		

Surge Immunity Test	IEC 61000-4-5:2006 Surge pulse 2.0 kV, 1.2 /50 µsec, 2 Ω source impedance, all ports	6.0 kV, 1.2 /50 µsec, 2 Ω source impedance, all ports	IEEE C62.41-1991 Category B3/6kV combination wave, 3000 A

Intermodulation distortion (dBc, Min.) [2] 2f1, f1+f2, 2f2	Before surge After 25V surge After 1kV surge	115.0 [a] 115.0 [b] 105.0 [c]

HUM modulation **All models**	10 - 1400 1400 - 1800	> 70 dBc > 60 dBc 10A current passing / 65 VAC	**EMC compatibility**	EN60728-2 2012, Class A+

Maximum current	15 A	**F port isolation**	600 V
Weight	0, 564 kg	**Dimensions** (H x W x D)	147,5 x 95 x 78 mm

NOTES

(1) Typical value in 10 - 15 MHz range
(2) Two carriers (60 & 65 MHz), applied to each port, @ 120 dBµV
(a) No surge
(b) Measured after 10 pulses 25 VDC (1.2/500 µS) have been applied to each port
(c) Measured after 1 pulse of 1 kV (1.2/50 µsec) have been applied to each port

ORDERING INFORMATION

4RTP2-xx, 4RTP4-xx, 4RTP8-xx
xx = tap value in dB : 4, 8, 11, 14, 17, 20, 23, 26, 29, 32 and 35

Available values:
4RTP2-4T-8-11-14-17-20-23-26-29-32-35
4RTP4-8T-11-14-17-20-23-26-29-32-35
4RTP8-11T-14-17-20-23-26-29-32-35

A **power and signal bypass switch** is available as an option and is denoted by -/SW in the reference:

4RTP2-xx**/SW**
4RTP4-xx**/SW**
4RTP8-xx**/SW**

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