

TURKSAT KODU : TKS-RFP-09

PRODUCT FAMILY	DESCRIPTION
INDOOR RF PASSIVES	3D-LINE SPLITTERS AND TAPS

FEATURES



- >> **DOCSIS® 3.1** compliant with frequency range up to **1218 MHz**
- >> Electromagnetic compatibility **EXCEEDING CLASS A (+10 dB)**
- >> Very good **INTERMODULATION** performance
- >> **SUPERIOR** housing design ensures fast and easy installation
- >> Optional **BarrIER®** technology for ingress/egress protection

SPECIFICATIONS



ELECTRICAL SPECIFICATIONS - 3D-LINE SPLITTERS

2-way	3-way	3-way	3-way unbalanced	4-way	6-way	8-way
3DSS2 3DSS2-B 3DSE2 3DSV2	3DSS3 3DSS3-B 3DSE3	3DSV3	3DSS3U 3DSS3U-B 3DSE3U 3DSV3U	3DSS4 3DSS4-B 3DSE4 3DSV4	3DSV6	3DSV8

PORT LOSS (dB, Max.) - IN TO PORT

Frequency (MHz)	2-way	3-way	3-way	3-way unbalanced	4-way	6-way	8-way
5- 10	3.5	6.0	6.0	3.8 7.2	7.3	9.2	10.8
10 - 65	3.7	6.0	6.0	3.8 7.0	7.3	9.0	10.8
65- 470	3.8	6.1	6.5	3.8 7.0	7.3	9.3	10.8
470 - 862	4.1	6.1	6.5	4.0 7.5	7.5	10.4	11.4
862- 1006	4.3	6.5	6.8	4.2 8.0	8.0	10.6	12.0
1006 - 1218	4.6	7.0	7.3	4.5 8.5	8.5	11.5	13.0

RETURN LOSS (dB, Min.) - ALL PORTS

5 - 1218	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)
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ISOLATION (dB, Min.) - OUT TO OUT

5- 10	30.0	28.0	28.0	30.0	30.0	28.0	28.0
10 - 65	35.0	32.0	32.0	35.0	35.0	32.0	32.0
65- 470	26.0	28.0	28.0	30.0	30.0	28.0	28.0
470 - 862	26.0	26.0	26.0	26.0	26.0	25.0	25.0
862- 1006	25.0	24.0	24.0	25.0	25.0	24.0	24.0
1006 - 1218	21.0	21.0	21.0	21.0	21.0	21.0	21.0



**ELECTRICAL SPECIFICATIONS - 3D-LINE 1-WAY TAPS**

6 dB 3DTS106	8 dB 3DTS108	10 dB 3DTE110 3DTS110	12 dB 3DTE112 3DTS112	16 dB 3DTE116 3DTS116	20 dB 3DTE120 3DTS120	24 dB 3DTS124
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**INSERTION LOSS (dB, Max.) - IN TO OUT**

Frequency (MHz)	6 dB	8 dB	10 dB	12 dB	16 dB	20 dB	24 dB
5 - 10	2.3	1.6	1.2	0.9	0.8	0.8	0.8
10 - 65	2.3	1.6	1.2	0.9	0.8	0.8	0.8
65 - 470	2.3	1.6	1.2	0.9	0.8	0.8	0.8
470 - 862	2.8	1.8	1.6	1.4	1.0	0.9	0.9
862 - 1006	2.9	2.0	1.8	1.6	1.4	1.2	1.2
1006 - 1218	3.3	2.5	2.3	2.1	1.7	1.5	1.5

**TAP LOSS (dB, Min.) - IN TO TAP**

5 - 65	6.5 ± 1.5	8.5 ± 1.5	10.5 ± 1.5	12.5 ± 1.5	16.0 ± 1.0	20.0 ± 1.0	24.0 ± 1.0
65 - 1006	6.5 ± 1.0	8.5 ± 1.0	10.5 ± 1.0	12.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0	24.0 ± 1.0
1006 - 1218	6.5 ± 1.5	8.5 ± 1.5	10.5 ± 1.5	12.5 ± 1.5	16.0 ± 2.0	20.0 ± 2.0	24.0 ± 2.0

**RETURN LOSS (dB, Min.) - ALL PORTS**

5 - 1218	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)
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**ISOLATION (dB, Min.) - OUT TO TAP**

5 - 10	20.0	22.0	25.0	25.0	32.0	35.0	38.0
10 - 65	25.0	28.0	30.0	30.0	35.0	38.0	42.0
65 - 470	23.0	25.0	27.0	30.0	32.0	35.0	38.0
470 - 862	20.0	20.0	22.0	25.0	30.0	32.0	35.0
862 - 1006	20.0	20.0	21.0	22.0	28.0	30.0	32.0
1006 - 1218	18.0	18.0	20.0	20.0	25.0	26.0	28.0

**WELDES CAN DAMAGE SOLDERED COMPONENTS...**

Production soldering meaning high temperatures. This guarantees higher product many benefits such as a





**ELECTRICAL SPECIFICATIONS - 3D-LINE 2-WAY TAPS**

	8 dB 3DTE208 3DTS208	10 dB 3DTE210 3DTS210	12 dB 3DTE212 3DTS212	16 dB 3DTE2016 3DTS216	20 dB 3DTE220 3DTS220
<b>INSERTION LOSS (dB, Max.) - IN TO OUT</b>					
Frequency (MHz)					
5 - 10	4.4	2.7	1.9	1.7	1.3
10 - 65	4.4	2.7	1.6	1.6	1.3
65 - 470	4.3	3.0	1.7	1.6	1.3
470 - 862	4.3	3.4	1.9	1.8	1.6
862 - 1006	4.6	3.6	2.4	2.2	2.0
1006 - 1218	5.4	4.5	3.5	2.7	2.5
<b>TAP LOSS (dB, Min.) - IN TO TAP</b>					
5 - 65	8.5 ± 1.5	10.0 ± 1.5	12.0 ± 1.5	16.0 ± 1.5	20.0 ± 1.5
65 - 1006	8.5 ± 1.5	10.0 ± 1.5	12.0 ± 1.5	16.0 ± 1.5	20.0 ± 1.5
1006 - 1218	8.5 ± 2.0	10.0 ± 2.0	12.0 ± 2.0	16.0 ± 2.0	20.0 ± 2.0
<b>RETURN LOSS (dB, Min.) - ALL PORTS</b>					
5 - 10	18.0	22.0	22.0	22.0	22.0
10 - 1218	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>
<b>ISOLATION (dB, Min.) - OUT TO TAP</b>					
5 - 10	25.0	28.0	26.0	32.0	35.0
10 - 65	27.0	29.0	30.0	35.0	39.0
65 - 470	24.0	26.0	28.0	32.0	36.0
470 - 862	22.0	24.0	26.0	30.0	34.0
862 - 1006	20.0	22.0	24.0	28.0	32.0
1006 - 1218	20.0	20.0	22.0	26.0	28.0
<b>ISOLATION (dB, Min.) - TAP TO TAP</b>					
5 - 10	36.0	36.0	36.0	36.0	36.0
10 - 65	40.0	40.0	40.0	40.0	40.0
65 - 470	34.0	36.0	36.0	36.0	36.0
470 - 862	30.0	32.0	32.0	32.0	32.0
862 - 1006	28.0	30.0	30.0	30.0	30.0
1006 - 1218	28.0	30.0	30.0	30.0	30.0



**ELECTRICAL SPECIFICATIONS - 3D-LINE 4/8-WAY TAPS**

10 dB	12 dB	12 dB	16 dB	20 dB	14 dB	16 dB	20 dB
3DTV410	3DTE412T	3DTV412	3DTV416	3DTV420	3DTV814	3DTV816	3DTV820

**INSERTION LOSS (dB, Max.) - IN TO OUT**

Frequency (MHz)	3DTV410	3DTE412T	3DTV412	3DTV416	3DTV420	3DTV814	3DTV816	3DTV820
5 - 10	3.5	12.5 ± 1.5	3.5	1.6	0.9	4.3	3.0	2.0
10 - 65	3.5	12.5 ± 1.0	3.5	1.6	0.9	4.3	3.0	2.0
65 - 470	3.8	12.5 ± 1.0	3.6	1.6	0.9	4.3	3.3	2.6
470 - 862	4.0	12.5 ± 1.0	3.8	1.8	1.4	4.8	3.6	2.8
862 - 1006	4.2	12.5 ± 1.0	4.0	2.0	1.6	4.8	3.6	2.8
1006 - 1218	4.5	12.5 ± 1.5	4.3	2.5	2.1	5.1	3.9	3.1

**TAP LOSS (dB, Min.) - IN TO TAP**

5 - 10	10.0 ± 1.5	-	12.5 ± 1.5	16.0 ± 1.5	20.5 ± 1.5	14.0 ± 1.0	16.0 ± 1.5	19.5 ± 1.5
10 - 65	10.0 ± 1.0	-	12.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0	14.0 ± 1.0	16.0 ± 1.0	19.5 ± 1.5
65 - 470	10.0 ± 1.0	-	12.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0	14.0 ± 1.0	16.0 ± 1.0	20.0 ± 1.5
470 - 862	11.0 ± 1.0	-	12.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0	14.0 ± 1.5	16.0 ± 1.0	20.0 ± 1.5
862 - 1006	11.0 ± 1.0	-	12.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0	14.5 ± 1.5	16.0 ± 1.5	20.0 ± 1.5
1006 - 1218	11.0 ± 1.5	-	12.5 ± 1.5	16.5 ± 1.5	20.5 ± 2.0	15.5 ± 2.0	17.0 ± 1.5	20.0 ± 2.0

**RETURN LOSS (dB, Min.) - ALL PORTS**

5 - 1218	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>
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**ISOLATION (dB, Min.) - OUT TO TAP**

5 - 10	30.0	-	32.0	32.0	34.0	27.0	27.0	30.0
10 - 65	30.0	-	32.0	30.0	36.0	30.0	30.0	33.0
65 - 470	28.0	-	32.0	30.0	34.0	28.0	28.0	34.0
470 - 862	24.0	-	27.0	28.0	32.0	23.0	23.0	30.0
862 - 1006	24.0	-	24.0	28.0	30.0	22.0	22.0	28.0
1006 - 1218	22.0	-	22.0	25.0	28.0	21.0	21.0	26.0

**ISOLATION (dB, Min.) - TAP TO TAP**

5 - 10	25.0	20.0	25.0	25.0	25.0	24.0	24.0	22.0
10 - 47	25.0	20.0	25.0	25.0	25.0	32.0	32.0	32.0
47 - 65	32.0	28.0	32.0	32.0	32.0	32.0	32.0	32.0
65 - 470	32.0	28.0	32.0	32.0	32.0	28.0	28.0	28.0
470 - 862	32.0	25.0	32.0	32.0	32.0	23.0	23.0	23.0
862 - 950	30.0	22.0	30.0	30.0	30.0	22.0	22.0	22.0
950 - 1006	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
1006 - 1218	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0



**ELECTRICAL SPECIFICATIONS - 3D-LINE MULTITAPS**

4-way 3DMV4-TS	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8-TS
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**INSERTION LOSS (dB, Max.) - IN TO OUT**

Frequency (MHz)	4-way 3DMV4-TS	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8-TS
5 - 10	3.8	-	5.8	8.5
10 - 65	3.6	-	5.7	8.2
65 - 470	3.6	-	5.8	8.5
470 - 862	4.3	-	6.0	8.9
862 - 1006	4.7	-	7.5	9.2
1006 - 1218	5.2	-	8.2	10.0

**TAP LOSS (dB) - IN TO TAP**

Frequency (MHz)	Port	4-way 3DMV4-TS	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8-TS
5 - 65 ± 1.5	Port1	12.5	12.5	12.5	12.5
	Port2	13.5	12.5	13.5	13.5
65 - 862 ± 1.3	Port3	14.5	12.5	14.5	14.5
	Port4	15.5	12.5	15.5	15.5
862 - 1218 ± 1.5	Port5	-	12.5	16.5	16.5
	Port6	-	-	17.5	17.5
	Port7	-	-	-	18.5
	Port8	-	-	-	19.5

**RETURN LOSS (dB, Min.) - ALL PORTS**

Frequency (MHz)	4-way 3DMV4-TS	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8-TS
5 - 1218	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>	22.0 <sup>(1)</sup>

**ISOLATION (dB, Min.) - OUT TO TAP**

Frequency (MHz)	4-way 3DMV4-TS	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8-TS
5 - 10	26.0	-	26.0	26.0
10 - 65	26.0	-	26.0	26.0
65 - 470	28.0	-	28.0	28.0
470 - 862	24.0	-	24.0	24.0
862 - 1006	22.0	-	22.0	22.0
1006 - 1218	22.0	-	22.0	22.0

**ISOLATION (dB, Min.) - TAP TO TAP**

Frequency (MHz)	4-way 3DMV4-TS	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8-TS
5 - 10	36.0	36.0	36.0	36.0
10 - 47	40.0	36.0	36.0	40.0
47 - 65	40.0	32.0	32.0	40.0
65 - 470	33.0	32.0	32.0	33.0
470 - 862	30.0	32.0	32.0	30.0
862 - 950	30.0	30.0	30.0	30.0
950 - 1006	30.0	22.0	22.0	30.0
1006 - 1218	27.0	22.0	22.0	27.0

3D-Line	All Models
<b>Nominal impedance</b>	75 Ohm
<b>Frequency range</b>	5-1218 MHz
<b>Operating temperature range</b>	-25 C° to +70 C°
<b>Electromagnetic comp.</b>	
( <sup>2</sup> ) (dB, Min.)	
5-300	95.0
300-470	90.0
470-950	85.0
950-1218	75.0
<b>Surge immunity</b> ( <sup>3</sup> )	
Each port (Min.)	1 kV
<b>Intermodulation</b> ( <sup>4</sup> )	
	-122.0 dBc <sup>(a)</sup>
(2f1, f1+f2, 2f2)	
(dB,Min.)	-115.0 dBc <sup>(b)</sup>










**Notes:**

- (1) At F≥40 MHz -1.5 dB per octave
- (2) Exceeding Class A (+10dB), according to IEC 60728-2 2010 (new 2012), EMC
- (3) 1 kV, 1,2/50 μs Surge voltage according to IEC 61000-4-5, EMC (class 2, level 2) applied between the inner and outer conductor of each port
- (4) Two carriers (60 & 65 MHz), applied to each output port, @120dBμV
- (a) No surge
- (b) Measured after 10 pulses 25VDC(1,2/500μS) have been applied to each port

**Additional Notes:**

- ✓ Between 5MHz and 10MHz the above specifications are typical values and not min or max values
- ✓ The 3D models with "-B" behind the product name features the BarrIER<sup>®</sup> Lite Technology
- ✓ CableLabs is owner of the trademark DOCSIS<sup>®</sup>
- ✓ Teleste reserves the rights to alter specifications, features, manufacturing release dates and even the general availability of the products at any time.

MECHANICAL SPECIFICATIONS		
<b>Housing</b>	Material	Zinc die cast, NiSn plating
<b>Back Cover</b>	Construction Material	Machine Soldered Brass, Nickel plating
<b>Connectors</b>	Material Port spacing Protection cap Physical dimensions Rotational Torque	Zinc die cast 22 mm Yes ANSI/SCTE 01 2006 IEC 61169-24 ≥10 Nm
<b>F-Spring</b>	Material Plating Test pin acceptance Insertion & Withdrawal force	Phosphor Bronze Silver 0.51 mm - 1.3 mm Withdrawal ≥0.30N Insertion ≤25N
<b>Grounding Block</b>		Yes
<b>Salt mist cyclic test</b>	IEC 60068-2-52: 1996	672 hrs Number of cycles: 4 Severity: 5
<b>Vibration</b>	IEC 60068-2-6: 1995	Frequency range: 10-55 Hz Sweep rate: 1 octave /p/m Sweep cycles: 10 Displacement ampl.: 0.75 mm Axis: 3
<b>Protection</b>	IEC 60529: 1989	IP67

 <p><b>3DSSx</b></p>		
 <p><b>3DTExxx</b></p>		
 <p><b>3DMVx</b></p>	<p><b>3DSEx</b></p>	<p><b>3DSVx</b></p>