

RF Switching System



The final product may vary from the above image depending on the options selected.

Product

DEV 1400 RF Switching System Chassis; DC...18 GHz

Modules

DEV 141n $n+1$ Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
($n = 2, 4, 6, \text{ or } 8$)

DEV 142n $n+2$ Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
($n = 2, 3, \text{ or } 4$)

DEV 143m/b $m \times 2$ Combining Matrix Module; {Frequency Range of Band **b**};
50 Ohm, SMA (f)
($m = 2, 4, 6, \text{ or } 8$ and
 $b = C \{5.845...6.65 \text{ GHz}\}, CX \{5.845...6.65 \text{ GHz}, 7.9...8.4 \text{ GHz}\},$
 $X \{7.9...8.4 \text{ GHz}\}, \text{ or } KU \{13.75...14.5 \text{ GHz}\}$)

DEV 1440/b/mx2 $m \times 2$ Distributing Matrix Module; {Frequency Range of Band **b**};
50 Ohm, SMA (f)
($m = 4, 6, 8, \text{ or } 12$ and
 $b = C \{3.4...4.2 \text{ GHz}\}, CX \{3.4...4.2 \text{ GHz}, 7.25...7.75 \text{ GHz}\},$
 $X \{7.25...7.75 \text{ GHz}\}, \text{ or } KU \{10.95...12.75 \text{ GHz}\}$)

DEV 144n/b $2 \times n$ Distributing Matrix Module; {Frequency Range of Band **b**};
50 Ohm, SMA (f)
($n = 2, 4, 6, \text{ or } 8$ and
 $b = C \{3.4...4.2 \text{ GHz}\}, CX \{3.4...4.2 \text{ GHz}, 7.25...7.75 \text{ GHz}\},$
 $X \{7.25...7.75 \text{ GHz}\}, \text{ or } KU \{10.95...12.75 \text{ GHz}\}$)

DEV 1460/n $1:n$ De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
($n = 6, 8, 12, 18, 24, \text{ or } 36$)

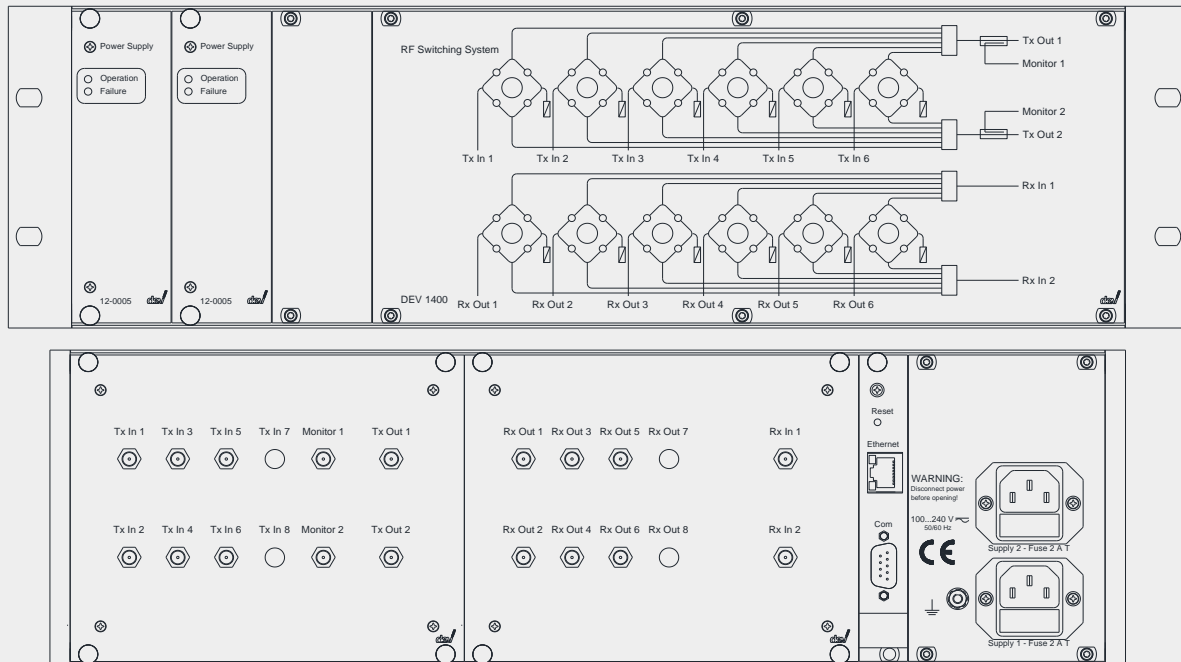
DEV 1463/C 6×3 Combining Matrix Module; 5.845...6.65 GHz;
50 Ohm, SMA (f)

Features:

- Compact 3 RU Chassis to be equipped with one or two Modules
- SNMP Support
- Redundant Power Supplies

Technical Data

DEV 1400 RF Switching System Chassis; DC...18 GHz



Capacity

Number of Slots 2

Remote Communication

Interfaces (Connectors)

- Ethernet (RJ-45)
- Serial Interface RS 232 (Sub-D-9 (f))
- via Web Interface (Ethernet)
- via SNMP (Ethernet)

Remote Monitoring & Control (Interface)

Redundant Power Supply

Supply Voltage 100...240 V AC supplied by two different Lines

Power Consumption <40 VA

General Specifications

Size 19" (483 mm) Width, 3 RU (133 mm) Height, 420 mm Depth

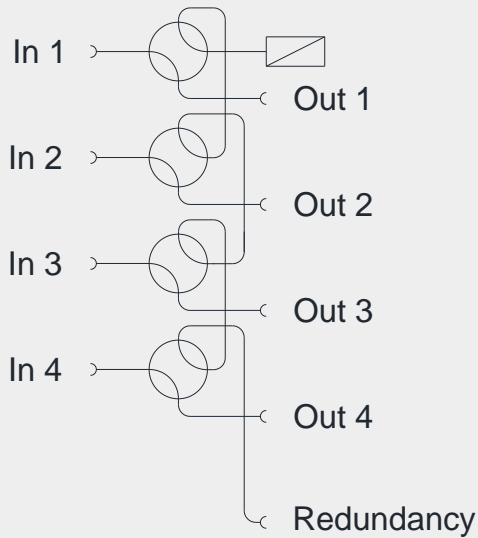
Weight ~8 kg

Environmental Conditions ETS 300019 Part 1-3 Class 3.1E

Technical Data (cont.)

DEV 141n $n+1$ Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
with $n = 2, 4, 6, \text{ or } 8$

4+1 Redundancy



RF Specifications

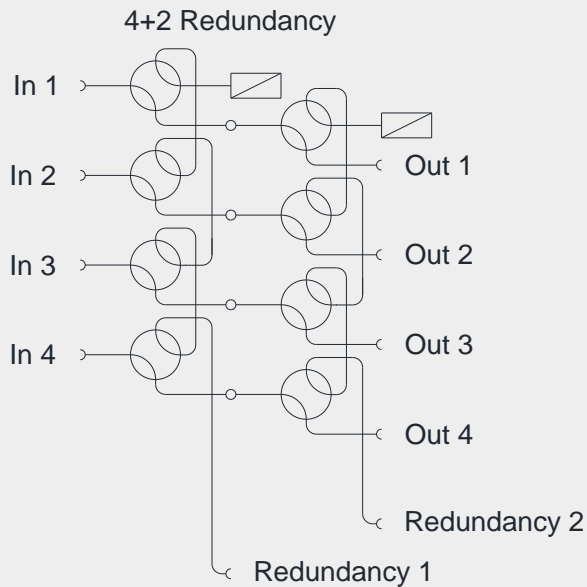
Number of Channels ($n+1$)	2+1	(DEV 1412)
	4+1	(DEV 1414)
	6+1	(DEV 1416)
	8+1	(DEV 1418)
Frequency Range	DC...18 GHz	
Impedance, Connectors	50 Ohm, SMA (f)	
Return Loss	>14 dB	
Insertion Loss	<0.5 dB @ 3 GHz	
	<1.0 dB @ 12 GHz	
	<1.5 dB @ 18 GHz	
Isolation	>80 dB @ 3 GHz	
	>60 dB @ 18 GHz	
Continuous Power	<50 W	
Switchable Power	<2 W	

General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

Technical Data (cont.)

DEV 142 n $n+2$ Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
 with $n = 2, 3, \text{ or } 4$



RF Specifications

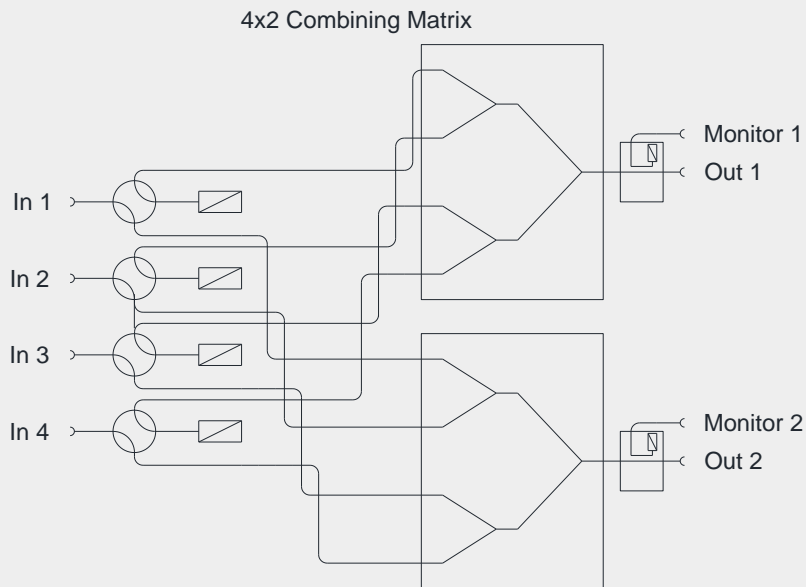
Number of Channels ($n+2$)	2+2	(DEV 1422)
	3+2	(DEV 1423)
	4+2	(DEV 1424)
Frequency Range	DC...18 GHz	
Impedance, Connectors	50 Ohm, SMA (f)	
Return Loss	>14 dB	
Insertion Loss	<1.0 dB @ 3 GHz <2.0 dB @ 12 GHz <3.0 dB @ 18 GHz	
Isolation	>80 dB @ 3 GHz >60 dB @ 18 GHz	
Continuous Power	<50 W	
Switchable Power	<2 W	

General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

Technical Data (cont.)

DEV 143m/b *m*x2 Combining Matrix Module; {Frequency Range of Band *b*}; 50 Ohm, SMA (f)
 with *m* = 2, 4, 6, or 8
 with *b* = C {5.845...6.65 GHz}, CX {5.845...6.65 GHz, 7.9...8.4 GHz},
 X {7.9...8.4 GHz}, or KU {13.75...14.5 GHz}



RF Specifications

Number of Channels (<i>m</i> x2)	2x2	(DEV 1432/ <i>b</i>)
	4x2	(DEV 1434/ <i>b</i>)
	6x2	(DEV 1436/ <i>b</i>)
	8x2	(DEV 1438/ <i>b</i>)
Frequency Range	5.845...6.65 GHz	(DEV 143m/ <i>C</i>)
	5.845...6.65 GHz, 7.9...8.4 GHz	(DEV 143m/ <i>CX</i>)
	7.9...8.4 GHz	(DEV 143m/ <i>X</i>)
	13.75...14.5 GHz	(DEV 143m/ <i>KU</i>)
Impedance, Connectors	50 Ohm, SMA (f)	
Return Loss	>14 dB	
Insertion Loss Signal Path	<6 dB	(DEV 1432/ <i>C</i> , DEV 1432/ <i>CU</i>)
	<7 dB	(DEV 1432/ <i>X</i> , DEV 1432/ <i>KU</i>)
	<10 dB	(DEV 1434/ <i>C</i> , DEV 1434/ <i>CU</i>)
	<11 dB	(DEV 1434/ <i>X</i> , DEV 1434/ <i>KU</i>)
	<13.5 dB	(DEV 1436/ <i>C</i> , DEV 1436/ <i>CU</i> , DEV 1438/ <i>C</i> , DEV 1438/ <i>CU</i>)
	<15 dB	(DEV 1436/ <i>X</i> , DEV 1436/ <i>KU</i> , DEV 1438/ <i>X</i> , DEV 1438/ <i>KU</i>)
Flatness (in any 40 MHz Interval)	0.5 dBss	(DEV 143m/ <i>C</i>)
	0.6 dBss	(DEV 143m/ <i>CX</i> , DEV 143m/ <i>X</i> , DEV 143m/ <i>KU</i>)
Flatness (in any 500 MHz Interval)	1.0 dBss	(DEV 143m/ <i>C</i>)
	1.2 dBss	(DEV 143m/ <i>CX</i> , DEV 143m/ <i>X</i>)
	1.4 dBss	(DEV 143m/ <i>KU</i>)
Isolation	>60 dB (on/off)	
	>20 dB (on/on)	
Continuous Power	<33 dBm	

General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

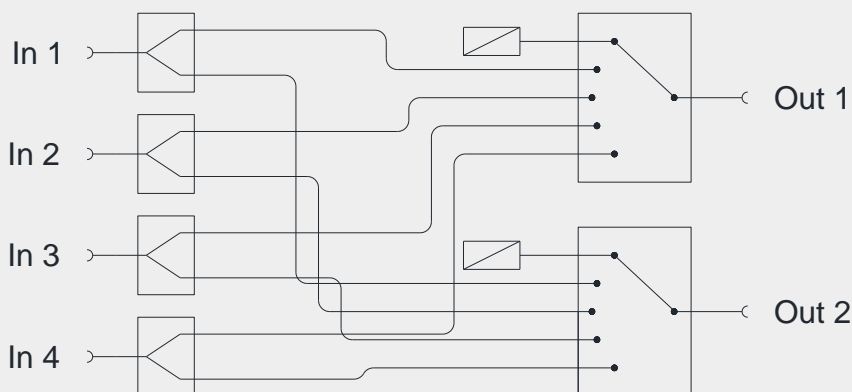
Technical Data (cont.)

DEV 1440/b/mx2 mx2 Distributing Matrix Module; {Frequency Range of Band b};
50 Ohm, SMA (f)

with $m = 4, 6, 8, \text{ or } 12$

with $b = C \{3.4...4.2 \text{ GHz}\}, CX \{3.4...4.2 \text{ GHz}, 7.25...7.75 \text{ GHz}\},$
 $X \{7.25...7.75 \text{ GHz}\}, \text{ or } KU \{10.95...12.75 \text{ GHz}\}$

4x2 Distributing Matrix



RF Specifications

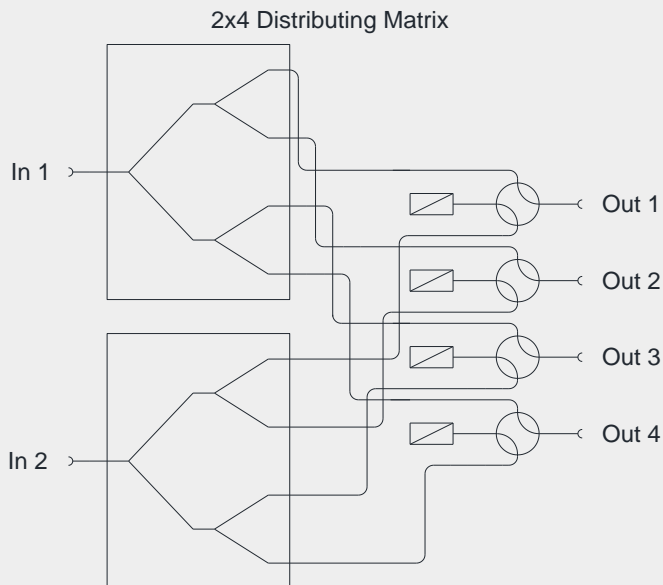
Number of Channels ($m \times 2$)	4x2	(DEV 1440/b/4x2)
	6x2	(DEV 1440/b/6x2)
	8x2	(DEV 1440/b/8x2)
	12x2	(DEV 1440/b/12x2)
Frequency Range	3.4...4.2 GHz	(DEV 1440/C/mx2)
	3.4...4.2 GHz, 7.25...7.75 GHz	(DEV 1440/CX/mx2)
	7.25...7.75 GHz	(DEV 1440/X/mx2)
	10.95...12.75 GHz	(DEV 1440/KU/mx2)
Impedance, Connectors	50 Ohm, SMA (f)	
Return Loss	>14 dB	
Insertion Loss Signal Path	<6 dB	(DEV 1440/C/mx2, DEV 1440/CX/mx2)
	<7 dB	(DEV 1440/X/mx2, DEV 1440/KU/mx2)
Flatness (in any 40 MHz Interval)	0.5 dBss	(DEV 1440/C/mx2)
	0.6 dBss	(DEV 1440/CX/mx2, DEV 1440/X/mx2, DEV 1440/KU/mx2)
Flatness (in any 500 MHz Interval)	1.0 dBss	(DEV 1440/C/mx2)
	1.2 dBss	(DEV 1440/CX/mx2, DEV 1440/X/mx2)
	1.4 dBss	(DEV 1440/KU/mx2)
Isolation	>60 dB (on/off)	
	>20 dB (on/on)	
Continuous Power	<33 dBm	

General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

Technical Data (cont.)

DEV 144n/b 2xn Distributing Matrix Module; {Frequency Range of Band b}; 50 Ohm, SMA (f)
 with $n = 2, 4, 6, \text{ or } 8$
 with $b = C \{3.4...4.2 \text{ GHz}\}, CX \{3.4...4.2 \text{ GHz}, 7.25...7.75 \text{ GHz}\},$
 $X \{7.25...7.75 \text{ GHz}\}, \text{ or } KU \{10.95...12.75 \text{ GHz}\}$



RF Specifications

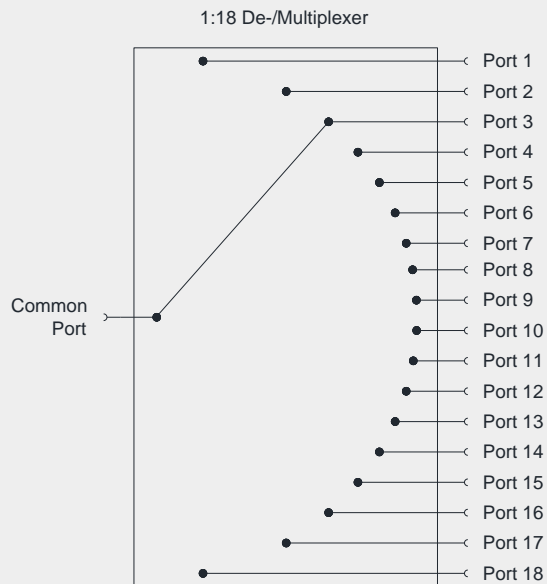
Number of Channels (2xn)	2x2	(DEV 1442/b)
	2x4	(DEV 1444/b)
	2x6	(DEV 1446/b)
	2x8	(DEV 1448/b)
Frequency Range	3.4...4.2 GHz	(DEV 144m/C)
	3.4...4.2 GHz, 7.25...7.75 GHz	(DEV 144m/CX)
	7.25...7.75 GHz	(DEV 144m/X)
	10.95...12.75 GHz	(DEV 144m/KU)
Impedance, Connectors	50 Ohm, SMA (f)	
Return Loss	>14 dB	
Insertion Loss Signal Path	<6 dB	(DEV 1442/C, DEV 1442/CU)
	<7 dB	(DEV 1442/X, DEV 1442/KU)
	<10 dB	(DEV 1444/C, DEV 1444/CU)
	<11 dB	(DEV 1444/X, DEV 1444/KU)
	<13.5 dB	(DEV 1446/C, DEV 1446/CU, DEV 1448/C, DEV 1448/CU)
Flatness (in any 40 MHz Interval)	0.5 dBss	(DEV 144m/C)
	0.6 dBss	(DEV 144m/CX, DEV 144m/X, DEV 144m/KU)
	1.0 dBss	(DEV 144m/C)
Flatness (in any 500 MHz Interval)	1.2 dBss	(DEV 144m/CX, DEV 144m/X)
	1.4 dBss	(DEV 144m/KU)
	Isolation	>60 dB (on/off)
	>20 dB (on/on)	
Continuous Power	<33 dBm	

General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

Technical Data (cont.)

DEV 1460/n 1:n De/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
with $n = 6, 8, 12, 18, 24, \text{ or } 36$



RF Specifications

Number of Channels (1:n)	1:6	(DEV 1460/6)
	1:8	(DEV 1460/8)
	1:12	(DEV 1460/12)
	1:18	(DEV 1460/18)
	1:24	(DEV 1460/24)
	1:36	(DEV 1460/36)
Frequency Range	DC...18 GHz	
Impedance, Connectors	50 Ohm, SMA (f)	
Return Loss	>14 dB	
Insertion Loss	<0.5 dB @ 3 GHz	(DEV 1460/6, DEV 1460/8, see Note 1)
	<1.0 dB @ 12 GHz	(DEV 1460/6, DEV 1460/8, see Note 1)
	<1.0 dB @ 18 GHz	(DEV 1460/6, DEV 1460/8, see Note 1)
Isolation	>80 dB @ 3 GHz	
	>60 dB @ 18 GHz	
Continuous Power	<40 W	
Switchable Power	<1 W	

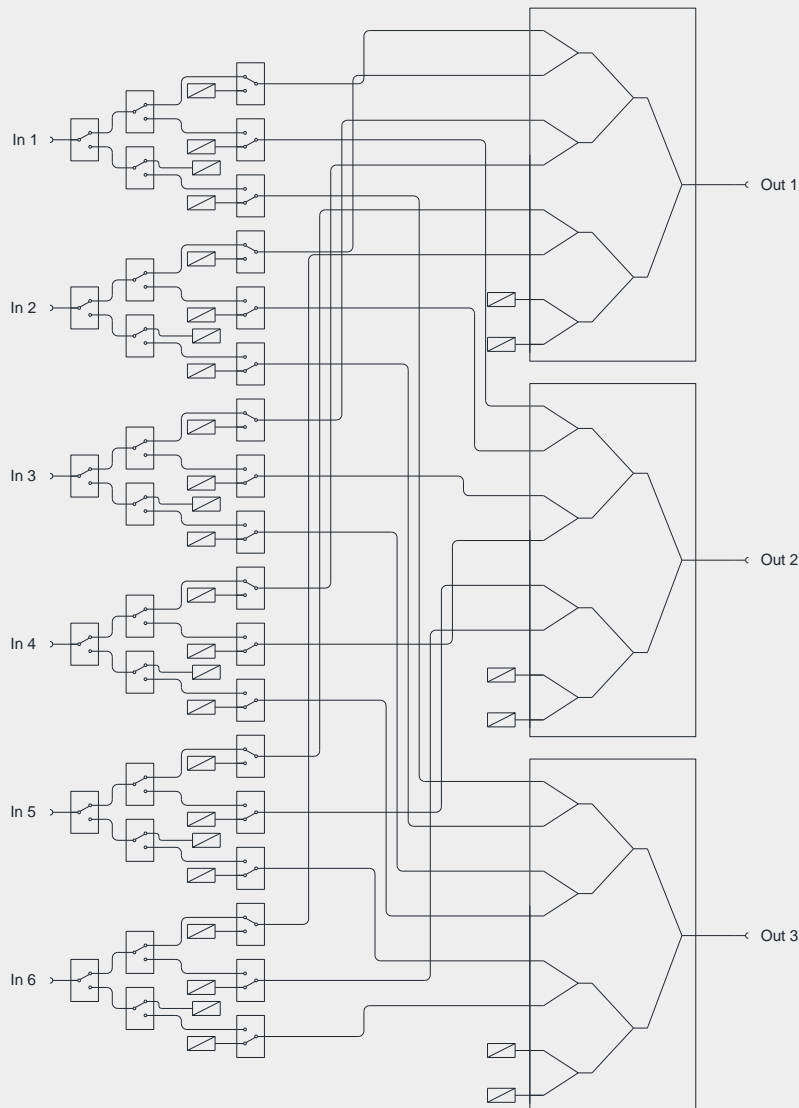
General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

Note 1: Insertion Loss specifications for DEV 1460/12, DEV 1460/18, DEV 1460/24, and DEV 1460/36 on request

Technical Data (cont.)

DEV 1463/C 6x3 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)



RF Specifications

Number of Channels	6x3
Frequency Range	5.845...6.65 GHz
Impedance, Connectors	50 Ohm, SMA (f)
Return Loss	>12 dB
Insertion Loss Signal Path	<15 dB
Flatness (in any 40 MHz Interval)	0.5 dBss
Flatness (in any 500 MHz Interval)	1.0 dBss

General Specifications

Size	64 HP (324 mm) Width, 3 RU (133 mm) Height, 300 mm Depth
Weight	~5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

Order Information

Product

DEV 1400 RF Switching System Chassis; DC...18 GHz

Modules

DEV 1412	2+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1414	4+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1416	6+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1418	8+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1422	2+2 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1423	3+2 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1424	4+2 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1432/C	2x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)
DEV 1432/CX	2x2 Combining Matrix Module; 5.845...6.65 GHz, 7.9...8.4 GHz; 50 Ohm, SMA (f)
DEV 1432/X	2x2 Combining Matrix Module; 7.9...8.4 GHz; 50 Ohm, SMA (f)
DEV 1432/KU	2x2 Combining Matrix Module; 13.75...14.5 GHz; 50 Ohm, SMA (f)
DEV 1434/C	4x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)
DEV 1434/CX	4x2 Combining Matrix Module; 5.845...6.65 GHz, 7.9...8.4 GHz; 50 Ohm, SMA (f)
DEV 1434/X	4x2 Combining Matrix Module; 7.9...8.4 GHz; 50 Ohm, SMA (f)
DEV 1434/KU	4x2 Combining Matrix Module; 13.75...14.5 GHz; 50 Ohm, SMA (f)
DEV 1436/C	6x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)
DEV 1436/CX	6x2 Combining Matrix Module; 5.845...6.65 GHz, 7.9...8.4 GHz; 50 Ohm, SMA (f)
DEV 1436/X	6x2 Combining Matrix Module; 7.9...8.4 GHz; 50 Ohm, SMA (f)
DEV 1436/KU	6x2 Combining Matrix Module; 13.75...14.5 GHz; 50 Ohm, SMA (f)
DEV 1438/C	8x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)
DEV 1438/CX	8x2 Combining Matrix Module; 5.845...6.65 GHz, 7.9...8.4 GHz; 50 Ohm, SMA (f)
DEV 1438/X	8x2 Combining Matrix Module; 7.9...8.4 GHz; 50 Ohm, SMA (f)
DEV 1438/KU	8x2 Combining Matrix Module; 13.75...14.5 GHz; 50 Ohm, SMA (f)
DEV 1440/C/4x2	4x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1440/CX/4x2	4x2 Distributing Matrix Module; 3.4...4.2 GHz, 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1440/X/4x2	4x2 Distributing Matrix Module; 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1440/KU/4x2	4x2 Distributing Matrix Module; 10.95...12.75 GHz; 50 Ohm, SMA (f)
DEV 1440/C/6x2	6x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1440/CX/6x2	6x2 Distributing Matrix Module; 3.4...4.2 GHz, 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1440/X/6x2	6x2 Distributing Matrix Module; 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1440/KU/6x2	6x2 Distributing Matrix Module; 10.95...12.75 GHz; 50 Ohm, SMA (f)
DEV 1440/C/8x2	8x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1440/CX/8x2	8x2 Distributing Matrix Module; 3.4...4.2 GHz, 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1440/X/8x2	8x2 Distributing Matrix Module; 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1440/KU/8x2	8x2 Distributing Matrix Module; 10.95...12.75 GHz; 50 Ohm, SMA (f)
DEV 1440/C/12x2	12x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1440/CX/12x2	12x2 Distributing Matrix Module; 3.4...4.2 GHz, 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1440/X/12x2	12x2 Distributing Matrix Module; 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1440/KU/12x2	12x2 Distributing Matrix Module; 10.95...12.75 GHz; 50 Ohm, SMA (f)

Order Information (cont.)

DEV 1442/C	2x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1442/CX	2x2 Distributing Matrix Module; 3.4...4.2 GHz, 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1442/X	2x2 Distributing Matrix Module; 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1442/KU	2x2 Distributing Matrix Module; 10.95...12.75 GHz; 50 Ohm, SMA (f)
DEV 1444/C	2x4 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1444/CX	2x4 Distributing Matrix Module; 3.4...4.2 GHz, 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1444/X	2x4 Distributing Matrix Module; 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1444/KU	2x4 Distributing Matrix Module; 10.95...12.75 GHz; 50 Ohm, SMA (f)
DEV 1446/C	2x6 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1446/CX	2x6 Distributing Matrix Module; 3.4...4.2 GHz, 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1446/X	2x6 Distributing Matrix Module; 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1446/Ku	2x6 Distributing Matrix Module; 10.95...12.75 GHz; 50 Ohm, SMA (f)
DEV 1448/C	2x8 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1448/CX	2x8 Distributing Matrix Module; 3.4...4.2 GHz, 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1448/X	2x8 Distributing Matrix Module; 7.25...7.75 GHz; 50 Ohm, SMA (f)
DEV 1448/Ku	2x8 Distributing Matrix Module; 10.95...12.75 GHz; 50 Ohm, SMA (f)
DEV 1460/6	1:6 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1460/8	1:8 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1460/12	1:12 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1460/18	1:18 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1460/24	1:24 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1460/36	1:36 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1463/C	6x3 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)

Please contact DEV Systemtechnik to discuss YOUR special Requirements!

Contact

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