

AMD-GROUP

RADIO FREQUENCY AND MICROWAVES COMPONENTS

Your french microwaves partner



R&D
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Tests
Sales

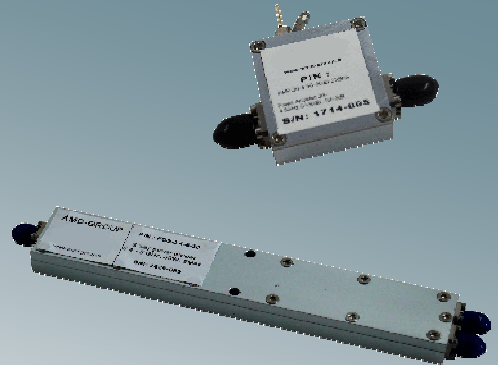
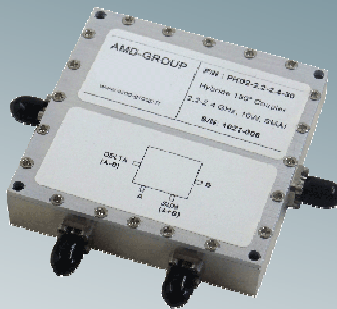
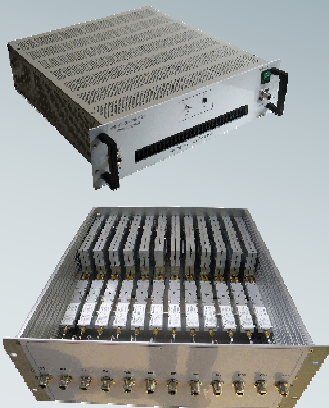
DC-50 GHz

Passive components

Active components

Systems

Engineering



- > Power Divider
- > Couplers
- > Filter
- > Switch
- > Power Amplifier
- > System



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COMPANY PROFILE

AMD-GROUP worldwide leader in ultra widebande components DC to 50

AMD-GROUP offers a complete range of standard items that support the most demanding applications in defence, industry, aerospace, telecommunications, medical equipment, research & development...

AMD-GROUP provides a variety of services for customers from a concept to production of prototypes, sub-assemblies or complex systems.

Our engineering team designs and builds complex electrical and mechanical on customer specification for which our interdisciplinary nature is particularly well adapted.

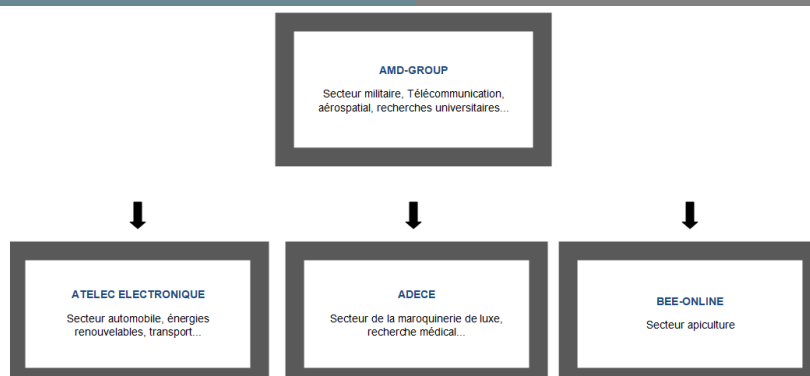
AMD-GROUP is an independent group specialised in high electronics technologies, radio frequency and microwave technologies.

AMD-GROUP is a team of 14 people highly qualified in microwave.

- 6 Engineers
- 1 Person in charge quality management
- 6 wire-stranding people
- 1 management assistant.

AMD-GROUP includes 3 companies with different sectors activities.

- **AMD-GROUP:** military - space - telecommunication industry.
- **ATELEC ELECTRONIQUE:** automobil - agricultural machinery - aeronautical & defence.
- **ADECE:** luxury leather - medical - telecommunication industry



POWER DIVIDER

A 0° power divider splits an input signal into two or more output signals which are theoretically equal in both amplitude and phase. AMD-GROUP offers a complete line of these 0° dividers. Readily available are 2, 3, 4, 6, 8, 10, 12, 16 & 32-way splits which cover various frequency bands up to 18 GHz.

Power dividers can also be used as power combiners. However, input signals which are to be combined must be of equal phase & amplitude and the sum port must be well matched to receive optimum performance. Deviations in phase or amplitude of the input signals will result in an increase in loss while a bad match on the sum port will decrease port to port isolation as well as increase loss.

Insertion Loss

Insertion loss is the difference in power between the input signal and the output signal above the theoretical split loss.

Amplitude Balance

The maximum difference in power level between any two output signals.

Phase Balance

The maximum phase difference in degrees between any two output signals.

Isolation

The isolation is used to define the amount of output port to port crosstalk. It is the level of attenuation of a signal injected into an output port as seen at any other output port with the input terminated in 50 ohms.

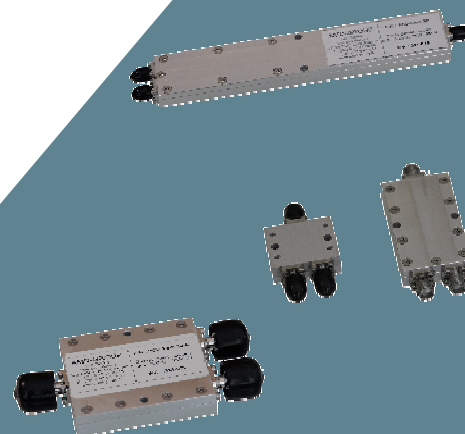
VSWR

The VSWR (Voltage Standing Wave Ratio) at any given port (with all other ports terminated) defines the degree of mismatch between the input signal and the input port and thus is a measure of the loss of input signal at that port.

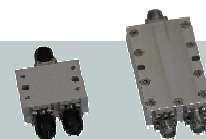
Theoretical Splitting Loss

The table on the following page lists the theoretical insertion loss, or theoretical difference between the input level of a power divider.

Number of output	Theoretical insertion Loss dB
2	3
3	4.8
4	6
6	7.8
8	9
12	10.8
16	12
32	15



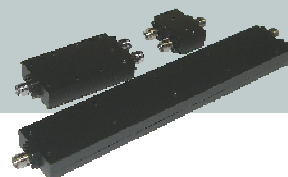
POWER DIVIDER : 2 WAYS



P/N	FREQUENCY RANGE (GHz)	INSERTION LOSS (dB Max.)	ISOLATION (dB Min.)	VSWR (dB MAX.)	AMP. BALANCE +/- dB Max.	PHASE BALANCE +/- Degrees Max.	OUTLINE NUMBER
PD2-0.47-0.87-30	0.47-0.87	0.5	19	1.30:1/1.25:1	0.2	2	PD2-1
PD2-0.8-0.9-30	0.8-0.9	0.4	28	1.30:1/1.20:1	0.2	2	PD2-1
PD2-0.5-1-30	0.5-1.00	0.3	22	1.23:1/1.15:1	0.2	2	PD2-1
PD2-0.7-2.3-30	0.7-2.3	0.5	20	1.45:1/1.25:1	0.2	2	PD2-3
PD2-1-2-30	1.00-2.00	0.35	20	1.25:1/1.15:1	0.2	2	PD2-4
PD2-3-4.2-30	3.0-4.2	0.5	20	1.35:1/1.30:1	0.2	3	PD2-8
PD2-3.4-6.6-30	3.4-6.6	0.4	22	1.20:1/1.20:1	0.2	3	PD2-8
PD2-6-8-30	6.0-8.0	0.6	20	1.35:1/1.35:1	0.2	3	PD2-8
PD2-7-12.4-30	7.0-12.4	0.7	16	1.70:1/1.70:1	0.6	8	PD2-8
PD2-8-12.4-30	8.0-12.4	0.5	20	1.35:1/1.30:1	0.2	3	PD2-8
PD2-10.2-14.5-30	10.2-14.5	0.8	19	1.40:1/1.40:1	0.3	6	PD2-8
PD2-1.5-3-30	1.5-3.0	0.35	18	1.35:1/1.25:1	0.2	3	PD2-4
PD2-2-4-30	2.0-4.0	0.4	20	1.30:1/1.20:1	0.2	2	PD2-8
PD2-3-6-30	3.0-6.0	0.7	18	1.40:1/1.30:1	0.3	6	PD2-8
PD2-4-8-30	4.0-8.0	0.6	20	1.35:1/1.25:1	0.2	2	PD2-8
PD2-8-18-30	8.0-18.0	0.6	19	1.40:1/1.35:1	0.2	3	PD2-8
PD2-2-6-30	2.0-6.0	0.7	16	1.40:1/1.30:1	0.3	6	PD2-8
PD2-0.5-2-30	0.5-2.0	0.6	22	1.25:1/1.15:1	0.2	2	PD2-2
PD2-0.5-2.5-30	0.5-2.5	0.6	22	1.25:1/1.15:1	0.2	2	PD2-2
PD2-2-8-30	2.0-8.0	0.6	20	1.35:1/1.35:1	0.3	4	PD2-6
PD2-2-18-30	2.0-18.0	1.2	19	1.40:1/1.40:1	0.3	6	PD2-9
PD2-0.3-3-10	0.3-3.0	1	22	1.35:1/1.40:1	0.4	6	PD2-3
PD2-0.45-5-30	0.45-5.0	0.5	18	1.25:1/1.20:1	0.3	3	PD2-3
PD2-0.4-6-30	0.4-6.0	1.3	18	1.50:1/1.50:1	0.5	8	PD2-10
PD2-0.8-2.2-30	0.8-2.2	0.7	20	1.30:1/1.25:1	0.5	4	PD2-10
PD2-10-15-30	10-15	0.7	18	1.30:1/1.40:1	0.3	2	PD2-8
PD2-9-10.5-30	9-10.5	0.3	17	1.25:1/1.25:1	0.2	2.5	
PD2-2-26.5-10-3.5F	2-26.5	1.9	16	1.50:1/1.6:1	0.3	5	
PD2-1-18-30	1-18	1.7	15	1.40:1/1.50:1	0.3	5	
PD2-0.38-6-30	0.38-6	0.6	18	1.20:1/1.3:1	0.2	2	
PD2-50M-500M-50-Nf-Sf	50-500MHz	0.5	18	1.3/1.5	0.3	5	
PD2-0.8-2.5-30	0.8-2.5	0.5	20	1.20:1/1.30:1	0.2	2	
PD2-0.3-6-30	0.3-6	0.6	18	1.20:1/1.25:1	0.15	1.5	
PD2-0.3-3-30	0.3-3	0.8	18	1.20:1/1.30:1	0.4	4	
PD2-8M-12M-1	8-12	0.5	15	1.20:1/1.40:1	0.2	2	PD2-8
PD2-0.95-2.15-30	0.95-2.15	0.3	19	1.30:1/1.35:1	0.2	1.5	PD2-2-N
PD2-6-12.4-30-N	6-12.4	0.8	17	1.30:1/1.40:1	0.4	4	
PD2-2-26.5-10	2-26.5	1.4	16	1.40:1/1.6:1	0.5	6	
PD2-3.4-4.2-30	3.4-4.2	0.5	18	1.30:1/1.35:1	0.2	1.5	
PD2-0.5-4-30	0.5-4	0.7	20	1.20:1/1.30:1	0.2	2	
PD2-6-18-30	6.0-18.0	0.8	18	1.40:1/1.35:1	0.3	4	PD2-8
PD2-0.5-18-30	0.5-18.0	1.7	19	1.50:1/1.40:1	0.6	10	PD2-10

WIDE BAND POWER DIVIDER : 2 WAYS

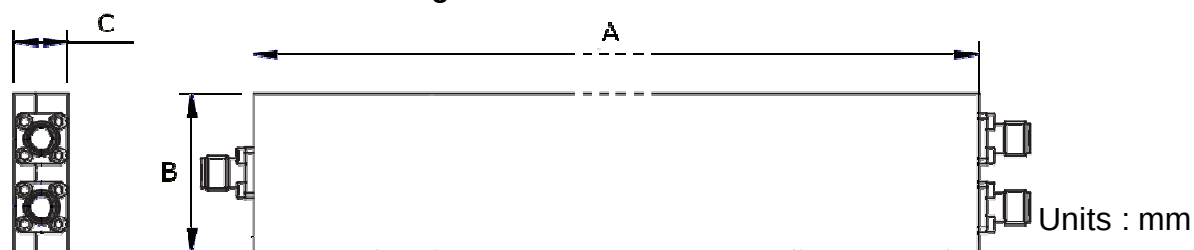
0.5-50 GHz



Technical Specifications (*intermediate frequencies performances on individual datasheets*)

Model	Frequency (GHz)	IL (dB)	Isolation Typ. (dB)	VSWR input	VSWR output	Amplitude	Phase	Connectors	outline
PD2-5-18-30	5 - 18	0.6	18	1.4	1.4	± 0.2	± 5	SMA	1
PD2-2-18-30	2 - 18	1.2	18	1.5	1.4	± 0.3	± 5	SMA	2
PD2-1-18-30	1 - 18	1.7	18	1.6	1.5	± 0.6	± 8	SMA	3
PD2-05-18-30	0.5 - 18	1.7	18	1.6	1.5	± 0.6	± 8	SMA	3
PD2-5-26.5-10	5 - 26.5	1.2	17	1.5	1.5	± 0.3	± 8	SMA	4
PD2-2-26.5-10	2 - 26.5	1.5	18	1.6	1.6	± 0.5	± 10	SMA	5
PD2-1-26.5-10	1 - 26.5	1.8	18	1.6	1.6	± 0.5	± 10	SMA	6
PD2-0.5-26.5-10	0.5 - 26.5	2	18	1.6	1.6	± 0.5	± 10	SMA	-
PD2-26.5-40-10	26.5 - 40	1.7	15	1.8	1.8	± 0.6	± 8	2.92/2.4 mm	7
PD2-18-40-10	18 - 40	1.7	14	1.8	1.8	± 0.6	± 8	2.92/2.4 mm	7
PD2-10-40-10	10 - 40	1.9	14	1.9	1.9	± 0.8	± 10	2.92/2.4 mm	4
PD2-5-40-10	5 - 40	1.9	14	1.9	1.9	± 0.8	± 10	2.92/2.4 mm	4
PD2-2-40-10	2 - 40	2.5	12	1.9	1.9	± 1	± 12	2.92/2.4 mm	-
PD2-1-40-10	1 - 40	2.8	12	1.9	1.9	± 1	± 12	2.92/2.4 mm	-

General Outline drawings



Type	1	2	3	4	5	6	7
A	20 (0.79)	54 (2.13)	150 (5.9)	30 (1.18)	60 (2.36)	105 (4.13)	16 (0.63)
B	23 (0.91)	30 (1.18)	25.4 (1)	26 (1.02)	26 (1.02)	26 (1.02)	26 (1.02)
C	10 (0.39)	10 (0.39)	11 (0.43)	13 (0.51)	13 (0.51)	13 (0.51)	10 (0.39)

Complete drawing including all dimensions and fixation points available on individual datasheet



POWER DIVIDER : 4 WAYS

P/N	FREQUENCY RANGE (GHz)	INSERTION LOSS (dB Max.)	ISOLATION (dB Min.)	VSWR (dB MAX.)	AMP. BALANCE +/- dB Max.	PHASE BALANCE +/- Degrees Max.	OUTLINE NUMBER
PD4-0.47-0.87-30	0.47-0.87	0.9	22	1.45:1/1.30:1	0.3	5.0	PD4-2
PD4-0.88-0.96-100	0.880-960	0.7	20	1.40:1/1.30:1	0.4	10.0	PD4-2
PD4-0.5-1-30	0.5-1.0	0.9	22	1.45:1/1.30:1	0.3	5.0	PD4-2
PD4-1-2-30	1.0-2.0	0.8	20	1.40:1/1.15:1	0.3	5.0	PD4-2
PD4-2-4-30	2.0-4.0	0.6	20	1.35:1/1.35:1	0.3	6.0	PD4-7
PD4-3.4-4.2-30	3.4-4.2	0.5	22	1.20:1/1.15:1	0.3	3.0	PD4-7
PD4-4-8-30	4.0-8.0	0.5	20	1.45:1/1.35:1	0.3	6.0	PD4-7
PD4-7-12.4-30	7.0-12.4	1	16	1.70:1/1.70:1	0.8	10.0	PD4-7
PD4-8-12.4-30	8.0-12.4	0.8	18	1.45:1/1.35:1	0.4	6.0	PD4-7
PD4-12-18-30	12.0-18.0	1.5	18	1.50:1/1.40:1	0.5	6.0	PD4-7
PD4-8-18-30	8.0-18.0	1	16	1.60:1/1.50:1	0.3	7.0	PD4-7
PD4-1.5-3-30	1.5-3.0	0.9	16	1.50:1/1.45:1	0.2	5.0	PD4-6
PD4-0.5-2.5-30	0.5-2.5	0.7	20	1.40:1/1.25:1	0.3	4.0	PD4-2
PD4-1-3-30	1.0-3.0	0.9	18	1.45:1/1.35:1	0.4	6.0	PD4-6
PD4-1-4-30	1.0-4.0	0.6	18	1.35:1/1.25:1	0.3	6.0	PD4-6
PD4-2-8-30	2.0-8.0	0.9	18	1.45:1/1.35:1	0.4	6.0	PD4-4
PD4-2-12-20	2.0-12.0	1.9	17	1.50:1/1.50:1	0.4	5.0	PD4-7
PD4-1-8-10	1.0-8.0	2.4	17	1.50:1/1.40:1	0.35	6.0	PD4-10
PD4-0.4-2.7-20	0.4-2.7	2.3	17	1.50:1/1.40:1	0.3	5.0	PD4-10
PD4-2-18-30	2.0-18.0	2.5	18	1.60:1/1.45:1	0.8	10.0	PD4-4
PD4-6-18-30	6.0-18.0	2.5	18	1.60:1/1.45:1	0.8	10.0	PD4-4
PD4-5.8-6.45-30	5.8-6.45	0.6	18	1.40 :1/1.50 :1	0.25	3	
PD4-2-4-30-N	2-4	0.7	18	1.30 :1/1.40 :1	0.3	4	PD4-2
PD4-1-18-30	1-18	3	15	1.50 :1/1.80 :1	0.2	6	
PD4-0.95-2.15-30	0.95-2.15	0.8	20	1.20 :1/1.40 :1	0.3	3	
PD4-0.38-6-30	0.38-6	1.5	18	1.30 :1/1.60 :1	0.25	4	
PD4-0.5-18-30	0.5-18	4	14	1.50 :1/1.80 :1	0.5	6	PD4-10
PD4-0.5-4-30	0.5-4	1.25	20	1.30 :1/1.50 :1	0.3	3	
PD4-0.4-6-30	0.4-6	1.5	18	1.30 :1/1.40 :1	0.2	2	
PD4-0.3-6-30	0.3-6	1.5	18	1.30 :1/1.40 :1	0.2	3	
PD4-0.3-3-30	0.3-3	1.5	18	1.30 :1/1.40 :1	0.4	5	
PD4-0.001-0.03-1	1-30MHz	1	20	1.25 :1/1.30 :1	0.4	4	
PD4-10-13-30-S	10-13	1.2	18	1.40 :1/1.50 :1	0.25	3	
PD4-10-15-30	10-15	1.3	15	1.30 :1/1.45 :1	0.35	5	PD4-7
PD4-50M-500M-50-Nf-Sf	50-500Mhz	0.5	18	1.3 :1/1.5 :1	0.3	5	
PD4-0.001-1-1	1-1000MHz	1.6	18	1.20 :1/1.25 :1	0.7	8	
PD4-6-18-30-S	6-18	2.5	18	1.60 :1/1.60 :1	0.8	10	PD4-4
PD4-10-13-30N	10-13	1.5	16	1.40 :1/1.60 :1	0.4	6	
PD4-0.3-3-30-N	0.3-3	1.5	18	1.30 :1/1.40 :1	0.4	5	PD4-11
PD4-0.3-3-10	0.3-3.0	1.5	19	1.40:1/1.40:1	0.5	10.0	PD4-11
PD4-0.4-6-10	0.4-6.0	1.5	19	1.40:1/1.40:1	0.5	10.0	PD4-10
PD4-0.5-18-10	0.5-18.0	6.5	18	1.70:1/1.50:1	1.4	18.0	PD4-10

WIDE BAND POWER DIVIDER : 4 WAYS

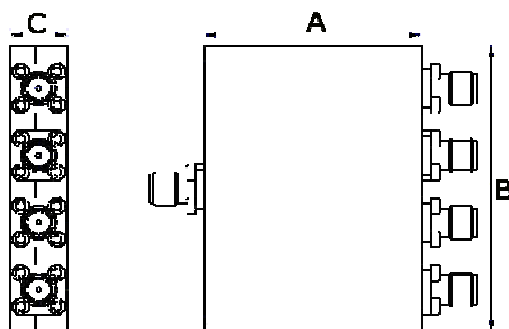
0.5-50 GHz



Technical Specifications (*intermediate frequencies performances on*)

Model	Frequency (GHz)	IL (dB)	Isolation Typ. (dB)	VSWR input	VSWR output	Amplitude	Phase	Connectors	outline
PD4-5-18-30	5 - 18	1.2	16	1.5	1.5	± 0.5	± 8	SMA	1
PD4-2-18-30	2 - 18	2	16	1.6	1.5	± 0.6	± 8	SMA	2
PD4-1-18-30	1 - 18	3.6	16	1.7	1.6	± 1	± 10	SMA	3
PD4-05-18-30	0.5 - 18	4	16	1.8	1.6	± 1	± 10	SMA	3
PD4-5-26.5-10	5 - 26.5	2	16	1.7	1.7	± 0.8	± 10	SMA	4
PD4-2-26.5-10	2 - 26.5	2.5	16	1.7	1.7	± 1	± 12	SMA	5
PD4-1-26.5-10	1 - 26.5	4	16	1.8	1.8	± 1	± 12	SMA	-
PD4-0.5-26.5-10	0.5 - 26.5	5	16	1.8	1.8	± 1.2	± 15	SMA	-
PD4-26.5-40-10	26.5 - 40	2.8	12	2	1.8	± 1	± 12	2.92/2.4 mm	6
PD4-18-40-10	18 - 40	2.8	12	2	1.8	± 1	± 12	2.92/2.4 mm	6
PD4-10-40-10	10 - 40	3	11	2	1.8	± 1	± 12	2.92/2.4 mm	4
PD4-5-40-10	5 - 40	4	11	2	1.9	± 1.2	± 14	2.92/2.4 mm	4
PD4-2-40-10	2 - 40	4.8	10	2	2	± 1.4	± 14	2.92/2.4 mm	-
PD4-1-40-10	1 - 40	6	10	2	2	± 1.4	± 14	2.92/2.4 mm	-

General Outline drawings



Units : mm

Type	1	2	3	4	5	6
A	38 (1.50)	72 (2.83)	160 (6.3)	40 (1.57)	110 (4.33)	30 (1.18)
B	54 (2.13)	54 (2.13)	75 (2.95)	52 (2.04)	54 (2.13)	52 (2.05)
C	10 (0.39)	10 (0.39)	11 (0.43)	13 (0.51)	13 (0.51)	10 (0.39)

Complete drawing including all dimensions and fixation points available on individual da-

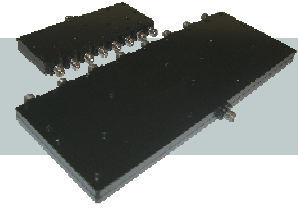


POWER DIVIDER : 8 WAYS

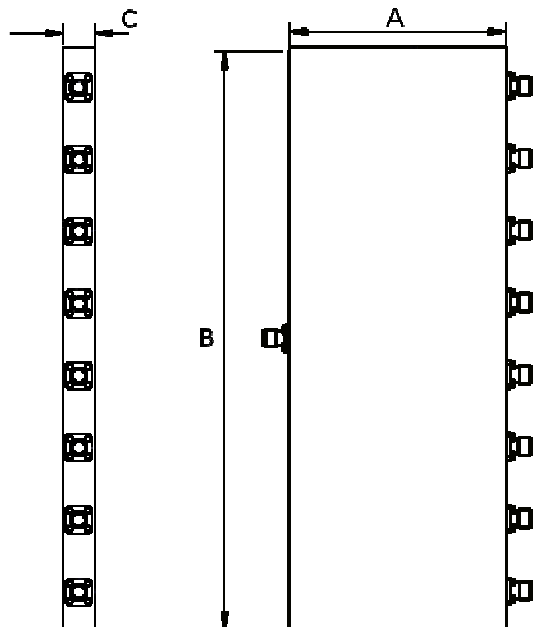
MODEL NUMBER	FREQUENCY RANGE (GHz)	INSERTION LOSS (dB Max.)	ISOLATION (dB Min.)	VSWR (dB MAX.)	AMP. BALANCE +/- dB Max.	PHASE BALANCE +/- Degrees Max.	OUTLINE NUMBER
PD8-0.5-1-30	0.5-1.0	0.7	18	1.35:1/1.30:1	0.35	9	PD8-1
PD8-1-2-30	1.00-2.00	0.8	18	1.45:1/1.35:1	0.35	6	PD8-1
PD8-2-4-30	2.0-4.0	1.2	18	1.45:1/1.35:1	0.35	9	PD8-2
PD8-5.8-6.4-30	5.8-6.4	0.9	19	1.40:1/1.30:1	0.4	8	PD8-2
PD8-2-8-30	2.0-8.0	1.2	17	1.60:1/1.60:1	0.7	10	PD8-4
PD8-4-8-30	4.0-8.0	1.2	17	1.60:1/1.60:1	0.6	10	PD8-4
PD8-8-12.5-30	8.0-12.4	1.3	16	1.70:1/1.70:1	0.5	8	PD8-4
PD8-6-18-30	6.0-18.0	2.2	15	1.80:1/1.70:1	0.5	8	PD8-2
PD8-12-18-30	12.0-18.0	2.2	15	1.80:1/1.70:1	0.5	15	PD8-2
PD8-2-18-30	2.0-18.0	3.8	15	1.80:1/1.80:1	0.8	18	PD8-3
PD8-0.5-18-30	0.5-18.0	6.8	16	1.60:1/1.45:1	1.2	18	PD8-5
PD8-3.62-4.25-30	3.62-4.25	0.7	19	1.35:1/1.30:1	0.3	5	PD8-2
PD8-5.8-6.4-30	5.8-6.4	0.6	18	1.35:1/1.20:1	0.5	8	PD8-2
PD8-8-11-30	8.0-11.0	0.7	20	1.35:1/1.25:1	0.4	8	PD8-4
PD8-0.5-2.5-30	0.5-2.5	1.4	16	1.60:1/1.55:1	0.4	7	PD8-1
PD8-7-12.5-30	7.0-12.5	2	16	1.70:1/1.70:1	0.5	8	PD8-3
PD8-0.8-6-30	0.38-6	1.9	18	1.40 :1/1.60 :1	0.2	4	
PD8-2-6-30	2.0-6.0	1.2	17	1.50:1/1.40:1	0.4	8	PD8-3
PD8-0.3-6-30	0.3-6	1.9	18	1.40 :1/1.60 :1	0.2	4	
PD8-0.001-1-1	1-1000MHz	2.1	18	1.20 :1/1.25 :1	0.7	15	
PD8-12.7-14.5-30	12.7-14.5	1.6	15	1.60 :1/1.75 :1	0.6	12	PD8-2
PD8-0.47-0.86-30	0.47-0.86	0.8	20	1.20 :1/1.30 :1	0.4	5	
PD8-1-6-30	1-6	1.5	18	1.40 :1/1.50 :1	0.4	5	PD8-5
PD8-8-12.4-30	8-12.4	1.3	16	1.50 :1/1.70 :1	0.5	12	
PD8-0.3-3-30	0.3-3	1.1	18	1.40 :1/1.50 :1	0.2	3	
PD8-10.9-12.75-30	10.9-12.75	1.2	15	1.60 :1/1.75 :1	0.4	10	PD8-2
PD8-0.8-2-30	0.8-2.0	0.8	17	1.45:1/1.35:1	0.35	8	PD8-1
PD8-0.5-2-30	0.5-2.0	1.5	20	1.45:1/1.45:1	0.8	8	PD8-1
PD8-3.4-4.2-30	3.4-4.20	0.9	19	1.40:1/1.30:1	0.4	6	PD8-2
PD8-0.4-6-30	0.4-6.0	1.5	18	1.50:1/1.40:1	0.4	4	PD8-5

POWER DIVIDER : 6 WAYS

MODEL NUMBER	FREQUENCY RANGE (GHz)	INSERTION LOSS (dB Max.)	ISOLATION (dB Min.)	VSWR (dB MAX.)	AMP. BALANCE +/- dB Max.	PHASE BALANCE +/- Degrees Max.	AVERAGE POWER (Watts) Load VSWR
PD6-0.5-1-30	0.5-1.0	0.7	18	1.35:1/1.30:1	0.35	9	30@1.2:1
PD6-2-8-30-N	2-8	3	14	1.50 :1/1.80 :1	0.75	10	30@1.2:1
PD6-0.42-0.47-1-N	420-470MHz	1	18	1.20 :1/1.35 :1	0.5	8	30@1.2:1
PD6-1-2-30	1.00-2.00	0.8	18	1.45:1/1.35:1	0.35	6	30@1.2:1
PD6-2-4-30	2.0-4.0	1.2	18	1.45:1/1.35:1	0.35	9	30@1.2:1
PD6-2-8-30	2.0-8.0	3	14	1.80:1/1.80:1	0.8	10	30@1.2:1

WIDE BAND POWER DIVIDER : 8 WAYS**0.5-50 GHz****Technical Specifications** (*intermediate frequencies performances on individual datasheets*)

Model	Frequency (GHz)	IL (dB)	Isolation Typ. (dB)	VSWR input	VSWR output	Amplitude	Phase	Connectors	outline
PD8-5-18-30	5 - 18	1.8	16	1.7	1.6	± 0.6	± 12	SMA	1
PD8-2-18-30	2 - 18	2.5	16	1.8	1.8	± 0.8	± 14	SMA	2
PD8-1-18-30	1 - 18	5	14	2	1.8	± 1	± 16	SMA	3
PD8-05-18-30	0.5 - 18	6.5	14	2	1.8	± 1.2	± 18	SMA	3
PD8-5-26.5-10	5 - 26.5	2.2	14	1.8	1.8	± 0.8	± 14	SMA	1
PD8-2-26.5-10	2 - 26.5	4	14	2	1.8	± 1	± 16	SMA	4
PD8-1-26.5-10	1 - 26.5	6	12	2	1.8	± 1.2	± 18	SMA	-
PD8-26.5-40-10	26.5 - 40	4.3	10	2	2	± 1.5	± 12	2.92/2.4 mm	5
PD8-18-40-10	18 - 40	4.3	10	2	2	± 1.5	± 12	2.92/2.4 mm	5
PD8-10-40-10	10 - 40	4.5	10	2	2	± 1.5	± 12	2.92/2.4 mm	1
PD8-5-40-10	5 - 40	5	10	2	2	± 1.5	± 12	2.92/2.4 mm	-

General Outline drawings

Type	A	B	C
1	50 (2)	103 (4.06)	11 (0.43)
2	94 (3.7)	102 (4.02)	11 (0.43)
3	180 (7.09)	160 (6.3)	11 (0.43)
4	130 (5.2)	110 (4.3)	11 (0.43)
5	40 (1.57)	103 (4.06)	11 (0.43)

Units : mm (in.)

Complete drawing including all dimensions and fixation points available on individual datasheet

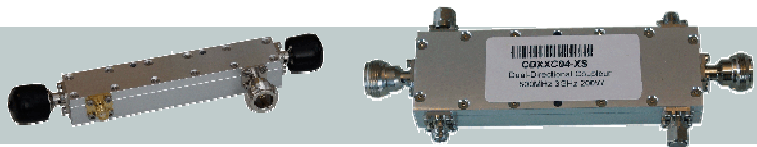
POWER DIVIDER : 12 WAYS

MODEL NUMBER	FREQUENCY RANGE (GHz)	INSERTION LOSS (dB Max.)	ISOLATION (dB Min.)	VSWR (dB MAX.)	AMP. BALANCE +/- dB Max.	PHASE BALANCE +/- Degrees Max.	AVERAGE POWER (Watts) Load VSWR
PD12-0.7-1.3-30	0.7-1.3	1.2	15	1.35 :1/1.50 :1	0.7	2.5	30@1.2:1
PD12-6-18-30	6-18	2.2	15	1.60 :1/2.0 :1	0.6	6	30@1.2:1
PD12-0.7-1.3-30	0.7-1.3	1.2	15	1.35 :1/1.50 :1	0.7	2.5	30@1.2:1
PD12-6-18-30	6-18	2.2	15	1.60 :1/2.1 :1	0.6	6	30@1.2:1
PD12-0.5-1-30	0.5-1.0	0.7	18	1.35:1/1.30:1	0.35	9	30@1.2:1
PD12-1-2-30	1.00-2.00	0.8	18	1.45:1/1.35:1	0.35	6	30@1.2:1
PD12-2-4-30	2.0-4.0	1.2	18	1.45:1/1.35:1	0.35	9	30@1.2:1

POWER DIVIDER : 16 WAYS

MODEL NUMBER	FREQUENCY RANGE (GHz)	INSERTION LOSS (dB Max.)	ISOLATION (dB Min.)	VSWR (dB MAX.)	AMP. BALANCE +/- dB Max.	PHASE BALANCE +/- Degrees Max.	AVERAGE POWER (Watts) Load VSWR
PD16-.001-.03-30	0.001-0.030	1	18	1.35:1/1.30:1	0.5	5	3@1.2:1
PD16-0.5-1-30	0.5-1.0	0.7	18	1.35:1/1.30:1	0.35	9	30@1.2:1
PD16-0.001-1-1	1-1000MHz	3	18	1.20 :1/1.25 :1	1.2	2.2	
PD16-1-2-30	1.00-2.00	0.8	18	1.45:1/1.35:1	0.35	6	30@1.2:1
PD16-2-4-30	2.0-4.0	1.2	18	1.45:1/1.35:1	0.35	9	30@1.2:1

DIRECTIONAL COUPLERS



A directional coupler is used to sample a portion of an input signal for test and/or monitoring purposes. This "sample" signal is typically of much less power than the original input signal.

The coupling value of a directional coupler defines the difference in power between the input signal and the "sample" signal as it is observed at the coupled port. Pulsar offers a complete line of 6, 10, 11.5, 15, 20, & 30 dB couplers in various package styles covering selected frequency bands up to 18 GHz.

Coupling

The attenuation of a signal injected into the input port as seen at the coupled port.

Coupling Flatness

The maximum variation in the coupling value over a specified frequency range.

Insertion Loss

The loss of unrecoverable power dissipated within the unit.

Coupling Value	Coupling Loss (dB)
6 dB	1.2
10 dB	0.46
15 dB	0.14
20 dB	0.04
30 dB	0.004

Coupling Loss

Power lost from the input signal due solely to the power transferred to the coupling arm of the device.

Mainline Loss

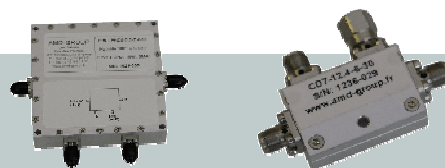
The difference in power between the input signal and the output signal. It is the Insertion Loss and Coupling Loss.

Directivity

The level of output power at the coupled port when a signal is injected into the unit in the desired direction minus the level of output power at the coupled port when the same signal is injected in the opposite direction. In a bi-directional unit, it is the difference in output power between the two coupled ports as seen from a constant signal in the same direction.

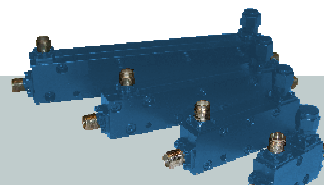
VSWR

The VCWR (Voltage Standing Wave Ratio) at any given port (with all other ports terminated) defines the degree of mismatch between the input signal and the input port and thus is a measure of the loss of input signal at that port.



DIRECTIONAL COUPLERS

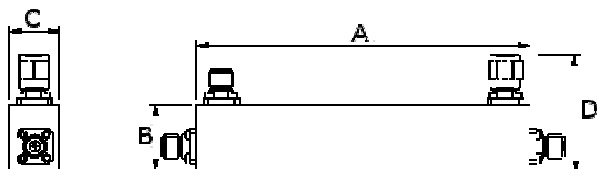
MODEL NUMBER	FREQUENCY RANGE (GHz)	COUPLING (dB)	DIRECTIV. (dB Min.)	FREQ. SENSITIVITY (dB)	INSERTION LOSS (dB Max.)	VSWR (Max.)	OUTLINE NUMBER
CD0.47-0.87-6-30	0.47-0.87	6	18	±0.50	0.45	1.25:1/1.25:1	CD-3
CD0.47-0.87-10-30	0.47-0.87	10	18	±0.50	0.45	1.25:1/1.25:1	CD-3
CD0.47-0.87-20-30	0.47-0.87	20	18	±0.50	0.45	1.25:1/1.25:1	CD-3
CD1-2-10-30	1.0-2.0	10	18	±0.50	0.45	1.25:1/1.25:1	CD-7
CD1-2-20-30	1.0-2.0	20	18	±0.50	0.45	1.25:1/1.25:1	CD-7
CD2-4-10-30	2.0-4.0	10	18	±0.50	0.45	1.25:1/1.25:1	CD-10
CD2-4-20-30	2.0-4.0	20	18	±0.50	0.45	1.25:1/1.25:1	CD-10
CD3.65-6.45-30-30	3.65-6.45	30±1.00	18	±0.70	0.90	1.30:1/1.30:1	CD-2
CD3.65-6.45-20-30	3.65-6.45	20±1.00	18	±0.70	0.90	1.30:1/1.30:1	CD-2
CD3.65-6.45-10-30	3.65-6.45	10±1.00	18	±0.70	1.20	1.30:1/1.30:1	CD-2
CD4-8-10-30	4.0-8.0	10±1.00	15	±0.70	1.20	1.30:1/1.30:1	CD-2
CD4-12.4-20-30	4.00-12.4	20±1.00	17	±0.50	0.55	1.30:1/1.30:1	CD-15
CD4-12.4-10-30	4.00-12.4	10±1.00	17	±0.50	1.20	1.30:1/1.30:1	CD-15
CD6-18-6-30	6.0-18.0	6±1.00	15	±0.50	1.00	1.40:1/1.40:1	CD-14
CD6-18-10-30	6.0-18.0	10±1.00	15	±0.50	1.00	1.40:1/1.40:1	CD-14
CD6-18-20-30	6.0-18.0	20±1.00	12	±0.50	0.90	1.40:1/1.40:1	CD-14
CD0.5-2-20-30	0.50-2.00	20±1.00	23	±0.75	0.40	1.20:1/1.20:1	CD-3
CD0.5-2-10-30	0.50-2.00	10±1.00	23	±0.75	0.90	1.20:1/1.20:1	CD-3
CD1-4-20-30	1.0-4.0	20±1.00	20	±0.50	0.45	1.25:1/1.25:1	CD-13
CD1-4-10-30	1.0-4.0	10±1.00	20	±0.50	1.00	1.25:1/1.25:1	CD-13
CD2-8-20-30	2.00-8.00	20±1.00	20	±0.50	0.45	1.25:1/1.25:1	CD-9
CD2-8-10-30	2.00-8.00	10±1.00	20	±0.50	1.00	1.25:1/1.25:1	CD-9
CD4-18-20-30	4.00-18.0	20±1.00	12	±0.50	0.90	1.40:1/1.40:1	CD-14
CD4-18-10-30	4.00-18.0	10±1.00	12	±0.50	1.00	1.40:1/1.40:1	CD-14
CD2-18-20-30	2.00-18.0	20±1.00	12	±0.50	0.90	1.35:1/1.40:1	CD-13
CD2-18-10-30	2.00-18.0	10±1.00	12	±0.50	1.30	1.35:1/1.50:1	CD-13
CD1-12.4-10-30	1.0-12.4	10±0.80	15	±0.40	1.10	1.35:1/1.35:1	CD-4
CD1-12.4-20-30	1.0-12.4	20±0.80	12	±0.40	1.10	1.35:1/1.35:1	CD-4
CD7.5-16-30-30	7.5-16.0	20±1.20	15	±0.50	1.10	1.40:1/1.50:1	CD-2
CD1-18-20-30	1.00-18.0	20±1.00	12	±0.50	0.90	1.40:1/1.50:1	CD-16
CD1-18-10-30	1.00-18.0	10±1.00	12	±0.50	1.50	1.40:1/1.50:1	CD-16
CD0.5-18-20-30	0.50-18.0	20±1.00	12	±0.70	1.20	1.40:1/1.40:1	CD-4
CD0.5-18-10-30	0.50-18.0	10±1.00	12	±0.70	1.60	1.40:1/1.40:1	CD-4



WIDEBAND DIRECTIONAL COUPLERS 0.5-50 GHz

Part Number	Frequency (GHz)	Coupling (dB)	Insertion Loss (dB)	Sensitivity (dB)	Directivity (dB)	VSWR	Outline
CD0.5-13-10-20	0.5-13	10 ± 1	1.4	± 1	15	1.4	3
CD0.5-13-20-20		20 ± 1.2	1	± 1	15	1.4	3
CD1-13-10-20	1-13	10 ± 0.8	1	± 0.5	15	1.4	2
CD1-13-20-20		20 ± 1	0.6	± 0.5	15	1.4	2
CD2-13-10-20	2-3	10 ± 0.8	0.8	± 0.5	16	1.3	1
CD2-13-20-20		20 ± 1	0.4	± 0.5	16	1.3	1
CD6-20-10-20	6-20	10 ± 0.6	1.2	± 0.5	15	1.4	4
CD6-20-20-20		20 ± 1	0.8	± 0.5	15	1.4	4
CD2-20-10-20	2-20	10 ± 0.8	1	± 0.6	15	1.4	1
CD2-20-20-20		20 ± 1	0.7	± 0.6	15	1.4	1
CD1-20-10-20	1-20	10 ± 0.8	1.2	± 0.8	14	1.5	2
CD1-20-20-20		20 ± 1	0.9	± 0.8	14	1.5	2
CD0.5-20-10-20	0.5-20	10 ± 1.2	1.5	± 1	12	1.5	3
CD0.5-20-20-20		20 ± 1.2	1.1	± 1	12	1.5	3
CD10-26.5-10-20	10-26.5	10 ± 0.7	1.2	± 0.5	12	1.5	5
CD10-26.5-20-20		20 ± 1	0.8	± 0.5	12	1.5	5
CD2-26.5-10-20	2-26.5	10 ± 0.8	1.4	± 0.6	12	1.5	1
CD2-26.5-20-20		20 ± 1	1	± 0.6	12	1.5	1
CD1-26.5-10-20	1-26.5	10 ± 1	1.6	± 0.8	12	1.5	2
CD1-26.5-20-20		20 ± 1.2	1.2	± 0.8	12	1.5	2
CD0.5-26.5-10-20	0.5-26.5	10 ± 1.2	1.9	± 2	12	1.5	3
CD0.5-26.5-20-20		20 ± 1.2	1.7	± 2	10	1.5	3
CD26.5-40-10-20	26.5-40	10 ± 0.7	1.7	± 0.4	12	1.7	5
CD26.5-40-20-20		20 ± 1	1.3	± 0.4	12	1.7	5
CD18-40-10-20	18-40	10 ± 0.7	1.7	± 0.4	11	1.7	5
CD18-40-20-20		20 ± 1	1.3	± 0.4	11	1.7	5
CD10-40-10-20	10-40	10 ± 0.7	1.7	± 0.5	10	1.7	5
CD10-40-20-20		20 ± 1	1.3	± 0.5	10	1.7	5
CD2-40-10-20	2-40	10 ± 1	1.8	± 0.8	11	1.7	1
CD1-40-10-20	1-40	10 ± 1	2	± 1	10	1.8	2
CD26.5-50-10-20	26.5-50	10 ± 0.7	1.9	± 0.5	10	1.8	5
CD18-50-10-20	18-50	10 ± 0.7	1.9	± 0.5	9	1.8	5
CD10-50-10-20	10-50	10 ± 0.7	1.9	± 0.6	8	1.9	5
CD2-50-10-20		10 ± 1	2.2	± 1	8	1.9	1

General Outline drawings



Type	A	B	C	D
1	59.5 (2.34)	17.9 (0.70)	13.5 (0.53)	33 (1.3)
2	89.4 (3.50)	17.9 (0.70)	13.5 (0.53)	33 (1.3)
3	112 (4.40)	19.5 (0.76)	14.5 (0.57)	21 (0.83)
4	40 (1.57)	17.9 (0.70)	13.5 (0.53)	33 (1.3)
5	29 (1.14)	16 (0.63)	10 (0.39)	34 (1.34)

90°HYBRIDE POWER DIVIDER

90° Hybrids split an input signal into two equal amplitude output signals which are 90° out of phase from each other. Like in-phase dividers, 90° Hybrids may also be used as a power combiner.

Insertion Loss

Insertion loss is the difference in power between the input signal and the output signal above the theoretical split loss of 3.0 dB.

Amplitude Balance

The maximum difference in power level between the output signals.

Phase Balance

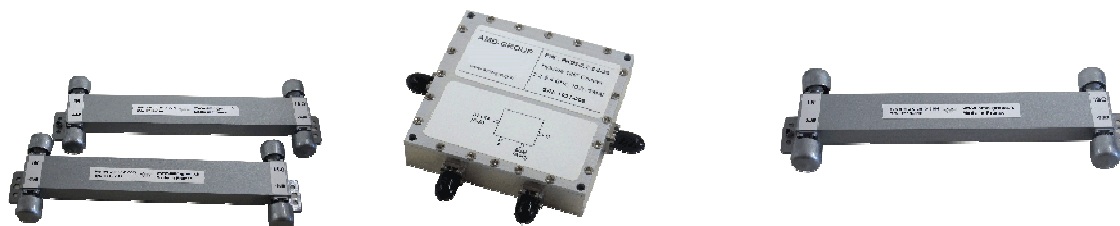
The maximum phase difference in degrees between the output signals.

Isolation

The isolation is used to define the amount of output port to port crosstalk. It is the level of attenuation of a signal injected into an output port as seen at the other output port with the input terminated in 50 ohms.

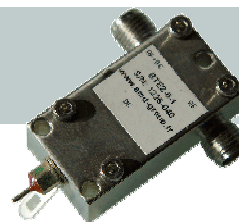
VSWR

The VSWR (Voltage Standing Wave Ratio) at any given port (with all other ports terminated) defines the degree of mismatch between the input signal and the input port and thus is a measure of the loss of input signal at that port.



MODEL NUMBER	FREQUENCY RANGE (GHz)	INSERTION LOSS (dB Max.)	ISOLATION (dB Min.)	VSWR (dB MAX.)	AMP. BALANCE +/- dB Max.	PHASE BALANCE +/- Degrees Max.	AVERAGE POWER (Watts) Load VSWR	OUTLINE NUMBER
PH2-0.47-0.87-30	0.47-0.87	3.2 ± 0.3	28	1.15:1	1.2	3.0	30@1.2:1	PH2-1
PH2-0.5-1-30	0.5-1.0	3.2 ± 0.3	28	1.15:1	1.2	3.0	30@1.2:1	PH2-1
PH2-0.4-2-30	0.4-2.0	3.5 ± 0.6	20	1.30:1	1.0	6.0	30@1.2:1	PH2-6
PH2-1-2-30	1.0-2.0	3.2 ± 0.3	28	1.15:1	1.2	3.0	30@1.2:1	PH2-2
PH2-0.6-2.6-30	0.6-2.6	3.4 ± 0.5	20	1.30:1	1.4	4.0	30@1.2:1	PH2-5
PH2-2-4-30	2.0-4.0	3.2 ± 0.3	22	1.20:1	1.2	4.0	30@1.2:1	PH2-7
PH2-2.6-5.2-30	2.6-5.2	3.2 ± 0.3	20	1.25:1	1.2	4.0	30@1.2:1	PH2-8
PH2-2-8-30	2.0-8.0	3.4 ± 0.5	17	1.30:1	1.6	6.0	30@1.2:1	PH2-3
PH2-4-8-30	4.0-8.0	3.3 ± 0.3	18	1.25:1	1.4	4.0	30@1.2:1	PH2-2
PH2-6-12.4-30	6.0-12.4	3.4 ± 0.8	17	1.40:1	1.4	6.0	30@1.2:1	PH2-8
PH2-7.5-16-30	7.5-16.0	3.6 ± 0.8	15	1.40:1	1.4	8.0	30@1.2:1	PH2-8
PH2-4-18-30	4.0-18.0	3.5 ± 0.8	15	1.50:1	1.6	8.0	30@1.2:1	PH2-4
PH2-12-18-30	12.0-18.0	3.6 ± 0.8	15	1.40:1	1.4	8.0	30@1.2:1	PH2-8

BIAS TEES



0.01 to 40 GHz

We offers a large variety of bias tees that cover frequencies from 30 KHz to 20 GHz in both surface mount and connectorized packages. Many models are available with voltages up to 50 volts and currents up to 5 amps and custom requirements are welcomed. Options include higher voltage and current, higher RF input power and a choice of either an RF connector or a feed through connection for the DC input port.

FREQUENCY RANGE (GHz)	ISOLATION (dB) MIN.	INSERTION LOSS (dB) MAX.	CURRENT (mA) MAX. ¹	VSWR MAX.	OUTLINE NUMBER
50-800	25	0.6	6000	1.20:1	BTE 1
10-1000	25	1.0	200	1.20:1	BTE 2
800-1000	25	0.5	1000	1.20:1	BTE 3
1700-2000	25	0.7	1000	1.20:1	BTE 4
500-2500	25	1.0	200	1.20:1	BTE 5
10-3000	25	1.8	3000	1.50:1	BTE 6
500-3000	25	1.0	500	1.20:1	BTE 7
10-4200	25	1.2	200	1.20:1	BTE 8
1000-5000	35	1.0	1000	1.50:1	BTE 9
100-6000	30	1.5	500	1.50:1	BTE 10
500-10000	30	1.0	200	1.50:1	BTE 11
5000-12000	30	0.8	250	1.50:1	BTE 12
10000-12000	35	1.0	200	1.50:1	BTE 13
8000-15000	35	1.0	200	1.50:1	BTE 14
300-18000	25	1.5	500	1.60:1	BTE 15

Custom frequency bands and optimized specifications available

AMD-GROUP

DC-50 GHz
Your French Microwaves Partner

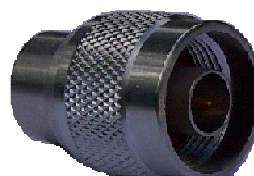
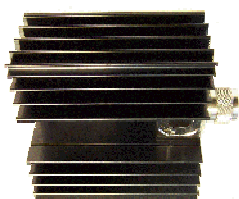
DC-BLOCK 0.01 to 18GHz

FREQUENCY RANGE (GHz)	INSERTION LOSS (DB) MAX.	VOLTAGE (VOLTS) MAX.	VSWR MAX.	OUTLINE NUMBER
0.0001-4.0	0.5	50	1.20:1	DCB1
0.0001-4.0	0.6	100	1.25:1	DCB2
0.001-6.0	0.7	100	1.30:1	DCB3
6.0-12.4	0.5	100	1.35:1	DCB4
6.0-12.4	0.7	500	1.50:1	DCB5
0.3-18.0	0.5	50	1.30:1	DCB6

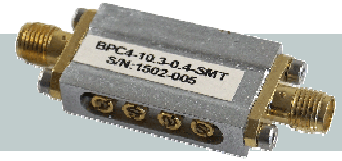
Custom frequency bands and optimized specifications available

POWER TERMINATION

P/N :	FREQUENCY RANGE (GHz)	VSWR (Max.)	AVERAGE POWER (Watts)	CONNECTORS
TER-3G-1W-Sm	DC-1 GHz	1.20:1	1	SMA male
TER-4G-2W-Nm	DC-4 GHz	1.20:1	2	N male
TER-4G-50W-Nm	DC-4 GHz	1.20:1	50	N male
TER-3G-400W-TNCF	1.2-2.9 GHz	1.20 :1	400	TNC female
TER-8G-100W-TNCF	6.8-7.1	1.2 :1	100	TNC female
TER-4G-100W-Nm	DC-4 GHz	1.20:1	100	N male



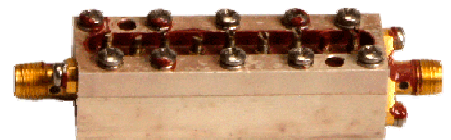
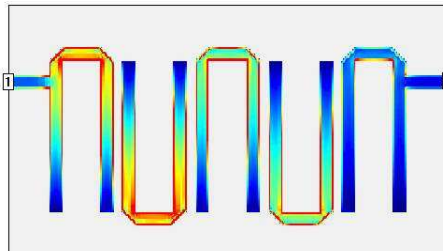
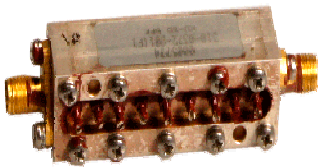
FILTERS

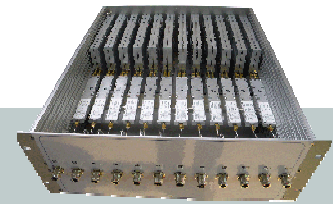


Cavity filter design are available in the frequency range of 30 MHz to 40 GHz and with bandwidths options from less than 0.5% to over 66 %. Cavity filters offer the user very low insertion loss, steep skirt selectivity, and narrower bandwidths than discrete components filters.

Lumped elements filters are designed to give optimal performance where small size is critical. Electrical and mechanical requirement for each design are computer-generated, taking into consideration realizable « Q » and environmental conditions, then analysed using our unique software, thereby reducing the amount of trial and error alignment.

Printed filters are designed for use in applications where size and weight requirements are paramount. The original opportunity was manned military aircraft, so the most stringent environmental concerns of MIL-ST810 and MIL-STD202 also had to be satisfied.





SYSTEM

We have developed a wide range of matrix switch till 24 inputs and 24 out puts.

Available configuration are Fan-Out 1x1 and Non-blocking.

Those matrix are used to commute N antennas to M receivers and monitoring and controlled by software.

Remote control of matrix could, as optionally defined, be by Ethernet, USB, RS232 or RS485 protocol.

Standard bandwidth : 2-30MHz, 20-3000MHz, DC-18GHz.

- Integration Services
- Sub-Systems
- Prototyping through to mass production
- Assembly of « turn-key » systems
- Rackmounted units , Cabinets, modular unit...

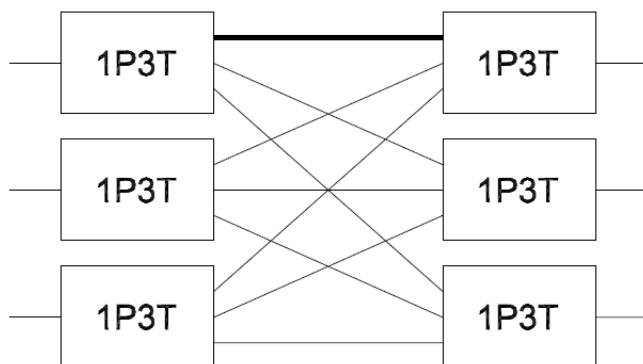


SYSTEM

SWITCH MATRIX

Blocking Matrix

The below schematic shows an example of a 3 X 3 non-blocking matrix. It is built with power dividers on the inputs and switches on the outputs. Each input signal is split to all output switches. This configuration provides greater switching flexibility because you can have multiple output ports connected to the same input port at the same time.

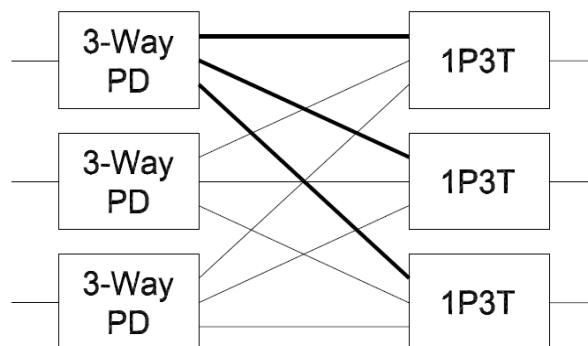


P/N : BMX-IN-OU-F

- IN : Number of inputs
- OU : Number of output
- F : Frequency range

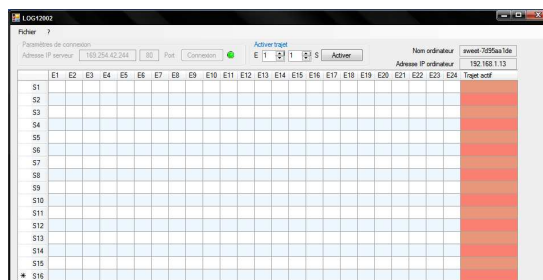
Non-Blocking Matrix

The below schematic shows an example of a 3 X 3 blocking matrix. It is built with switches on both the input ports and output ports. Each output port can only be connected to a single input port. Also, each input port can only be connected to a single output port. This configuration maximizes the isolation between ports and minimizes the insertion loss of the system.



P/N : NBX-IN-OU-F

- IN : Number of inputs
- OU : Number of output



HMI software

Option



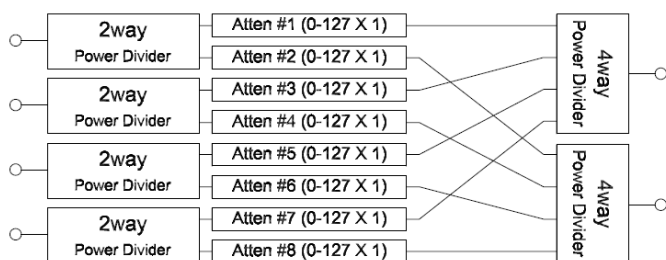
USB, or Ethernet control by Windows or Labview software	Frequency ranges from DC-18 GHz
Keypad & LCD display for manual control	Various RF connector options (BNC, TNC, SMA, N, etc.)
19", rack enclosures	50 Ohm and 75 Ohm impedance
Benchtop enclosures	Dual redundant power supplies
Frequency range for blocking matrix : A (1-30MHz), B (30-1000 MHz), C (300MHz-3 GHz), D (400MHz-6GHz), E (6-18 GHz), F(0.5-18GHz), G(18-40GHz)	Frequency range for non blocking matrix : A (DC-30MHz), B (DC-1000 MHz), C (DC-3 GHz), D (DC-6GHz), E (DC-18 GHz), F(DC-18GHz), G(DC-40GHz)

SYSTEMS

RADIO TEST SYSTEMS

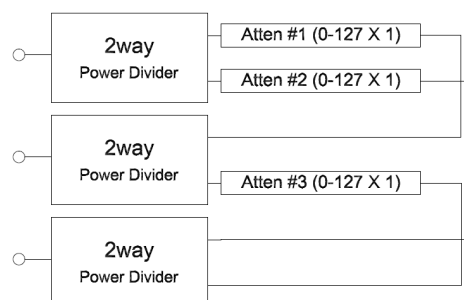
Handover Test System

The below schematic shows an example of a standard 4 X 2 handover test system. Every possible path from Antenna to Terminal has its own programmable attenuator. With this configuration the simulation of signal fading can be achieved. With Ethernet and USB control, we can provide you with the remote commands to simplify your test setup such as Handover, Variable Handover, Fade Attenuator, and Pause.



Transceiver Test System

The below schematic shows an example of a standard 3 port transceiver test system. Every possible path from port to port has its own programmable attenuator, so you can simulate changing distance in a network. With this configuration you can vary the attenuation between radios. With Ethernet and USB control, we can provide you with the remote commands to simplify your test setup such as Handover, Variable Handover, Fade Attenuator, and Pause.



P/N : HTS-IN-OU-F

- IN : Number of Antenna
- OU : Number of BTS
- F : Frequency range

Technical parameters

- Attenuation Range 0—127dB / 1dB step
- Attenuation accuracy ± 0.4 dB max
- VSWR : 1.6:1 max

P/N : TTS-IN-IN-F

- IN : Number of port
- F : Frequency range

Option

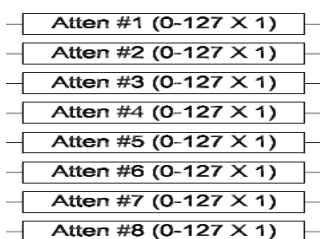
USB, or Ethernet control by Windows or Labview software	Frequency ranges for GSM, UMTS, LTE, and more
Keypad & LCD display for manual control	Various RF connector options (BNC, TNC, SMA, N, etc.)
19", rack enclosures	50 Ohm and 75 Ohm impedance
Benchtop enclosures	Dual redundant power supplies
Frequency range : A (1-30MHz), B (30-1000 MHz), C (300MHz-3 GHz), D (400MHz-6GHz)	Test Software Provided

SYSTEMS

ATTENUATOR SWITCH BENCH

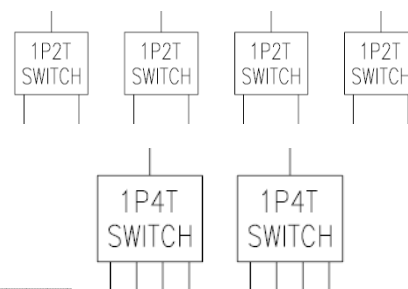
Programmable Attenuator Assemblies

The below schematic shows an example of a standard 8 programmable attenuator assemblies. Every path from input to output has its own programmable attenuator and is own software address. With Ethernet and USB control, we can provide you with the remote commands to simplify your test setup.



Programmable Switch Assemblies

The below schematic shows an example of a standard 4xSP2T and 2xSP4T3 programmable switch assemblies. Every switch has its own programmable position and is own software address. With Ethernet and USB control, we can provide you with the remote commands to simplify your test setup.



P/N : PAS-IN-A-F

- IN : Number of Attenuator
- A : Max attenuation
- F : Frequency range

Technical parameters

- Attenuation Range 0—127dB / 1dB step
- Setup time 20 ms max
- VSWR : 1.6:1 max

P/N : PSA-IN-SPXT-F

- IN : Number of switch
- X : Number of output
- F : Frequency range

Option

USB, or Ethernet control by Windows or Labview software	Frequency ranges for GSM, UMTS, LTE, and more
Keypad & LCD display for manual control	Various RF connector options (BNC, TNC, SMA, N, etc.)
19", rack enclosures	50 Ohm and 75 Ohm impedance
Benchtop enclosures	Dual redundant power supplies
Frequency range: A (1-30MHz), B (30-1000 MHz), C (300MHz-3 GHz), D (400MHz-6GHz)	Test Software Provided

SYSTEM

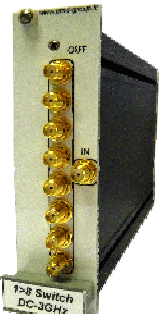
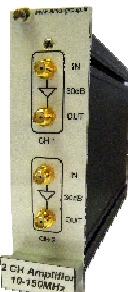
MODULAR CHASSIS TEST SET

Buildup yourself

The SYS14002 and SYS14002-1 modular chassis are capable of hosting respectively 6 and 12 module of 3U 7F.

Those units hold inside a control module to connect the system to a computer by USB or Ethernet protocol.



Microwave switch module DC-6 GHz  1 x SP8T : 1SP8TZY-01 2 x SP4T : 2SP4TZY-01 4 x SP2T : 4SP2TZY-01 Z (Absoratif, Reflectif) Y(Frequency range)	Microwave amplifier module DC-6 GHz /30dB  1 x Amplifier : 1AMPY-01 2 x Amplifier : 2AMPY-01 Y(Frequency range)	Microwave complexe integration DC-18GHz  Down / Up converter Frequency synthesizer
Microwave Divider module DC-18 GHz  1 x 1->8 : 1DIV8Y-01 2 x 1->4 : 2DIV4Y-01 4 x 1->2 : 4DIV2Y-01 Y(Frequency range)	Microwave Attenuator module DC-18 GHz  1 x 120dB/1dB : 1A1201Y-01 2 x 120dB/1dB : 2A1201Y-01 3 x 120dB/1dB : 3A1201Y-01 Y(Frequency range)	50 Ohm and 75 Ohm impedance 19", rack enclosures 3U 42F, 3U 84F USB, or Ethernet control by Windows or Lab-view software Various RF connector options (BNC, TNC, SMA, N, etc.) Frequency range : A (1-30MHz), B (30-1000 MHz), C (300MHz-3 GHz), D (400MHz-6GHz)

- Frequency ranges for GSM, UMTS, LTE, and more
- Attenuation range 32, 64, 128 dB from 0.5 to 1 dB step

Technical parameters

- VSWR : 1.6:1 max
- RF input power +30 dBm min
- Power divider isolation 18 dB min

AMD-GROUP

DC-50 GHz
Your French Microwaves Partner



SWITCHES

PART NUMBER	FREQUENCY RANGE (MHz)	absorptive	reflective	ISOLATION Typ. (dB)	INSERTION LOSS Typ. (dB)	VSWR (:1)	POWER Max. (W)	CONNECTORS In / Out
SP2T								
	<i>Standard supply 12V</i>			<i>with/without TTL driver 5V</i>				
SP2TR-30M-12V-T-S	DC - 30		X	65	0,1	1,20	10	SMA f / SMA f
SP2TR-30M-12V-T-N	DC - 30		X	65	0,1	1,20	10	N f / N f
SP2TA-30M-12V-T-S	DC - 30	X		65	0,2	1,25	10	SMA f / SMA f
SP2TA-30M-12V-T-N	DC - 30	X		65	0,2	1,25	10	N f / N f
SP2TR-1G-12V-T-S	DC - 1000		X	65	0,1	1,20	10	SMA f / SMA f
SP2TR-1G-12V-T-N	DC - 1000		X	65	0,1	1,20	10	N f / N f
SP2TA-1G-12V-T-S	DC - 1000	X		65	0,2	1,25	10	SMA f / SMA f
SP2TA-1G-12V-T-N	DC - 1000	X		65	0,2	1,25	10	N f / N f
SP2TR-3G-12V-T-S	DC - 3000		X	30	0,3	1,25	10	SMA f / SMA f
SP2TR-3G-12V-T-N	DC - 3000		X	30	0,3	1,25	10	N f / N f
SP2TA-3G-12V-T-S	DC - 3000	X		30	0,6	1,30	10	SMA f / SMA f
SP2TA-3G-12V-T-N	DC - 3000	X		30	0,6	1,30	10	N f / N f
SP3T								
	<i>Standard supply 12V</i>			<i>with/without TTL driver 5V</i>				
SP3TR-30M-12V-T-S	DC - 30		X	65	0,2	1,20	10	SMA f / SMA f
SP3TR-30M-12V-T-N	DC - 30		X	65	0,2	1,20	10	N f / N f
SP3TA-30M-12V-T-S	DC - 30	X		65	0,3	1,25	10	SMA f / SMA f
SP3TA-30M-12V-T-N	DC - 30	X		65	0,3	1,25	10	N f / N f
SP3TR-1G-12V-T-S	DC - 1000		X	65	0,2	1,20	10	SMA f / SMA f
SP3TR-1G-12V-T-N	DC - 1000		X	65	0,2	1,20	10	N f / N f
SP3TA-1G-12V-T-S	DC - 1000	X		65	0,3	1,25	10	SMA f / SMA f
SP3TA-1G-12V-T-N	DC - 1000	X		65	0,3	1,25	10	N f / N f
SP3TR-3G-12V-T-S	DC - 3000		X	30	0,6	1,25	10	SMA f / SMA f
SP3TR-3G-12V-T-N	DC - 3000		X	30	0,6	1,25	10	N f / N f
SP3TA-3G-12V-T-S	DC - 3000	X		30	0,9	1,30	10	SMA f / SMA f
SP3TA-3G-12V-T-N	DC - 3000	X		30	0,9	1,30	10	N f / N f
SP4T								
	<i>Standard supply 12V</i>			<i>with/without TTL driver 5V</i>				
SP4TR-30M-12V-T-S	DC - 30		X	65	0,2	1,20	10	SMA f / SMA f
SP4TR-30M-12V-T-N	DC - 30		X	65	0,2	1,20	10	N f / N f
SP4TA-30M-12V-T-S	DC - 30	X		65	0,3	1,25	10	SMA f / SMA f
SP4TA-30M-12V-T-N	DC - 30	X		65	0,3	1,25	10	N f / N f
SP4TR-1G-12V-T-S	DC - 1000		X	65	0,2	1,20	10	SMA f / SMA f
SP4TR-1G-12V-T-N	DC - 1000		X	65	0,2	1,20	10	N f / N f
SP4TA-1G-12V-T-S	DC - 1000	X		65	0,3	1,25	10	SMA f / SMA f
SP4TA-1G-12V-T-N	DC - 1000	X		65	0,3	1,25	10	N f / N f
SP4TR-3G-12V-T-S	DC - 3000		X	30	0,6	1,25	10	SMA f / SMA f
SP4TR-3G-12V-T-N	DC - 3000		X	30	0,6	1,25	10	N f / N f
SP4TA-3G-12V-T-S	DC - 3000	X		30	0,9	1,30	10	SMA f / SMA f
SP4TA-3G-12V-T-N	DC - 3000	X		30	0,9	1,30	10	N f / N f
SP8T								
	<i>Standard supply 12V</i>			<i>with/without TTL driver 5V</i>				
SP8TR-30M-12V-T-S	DC - 30		X	65	0,3	1,20	10	SMA f / SMA f
SP8TR-30M-12V-T-N	DC - 30		X	65	0,3	1,20	10	N f / N f
SP8TA-30M-12V-T-S	DC - 30	X		65	0,4	1,25	10	SMA f / SMA f
SP8TA-30M-12V-T-N	DC - 30	X		65	0,4	1,25	10	N f / N f
SP8TR-1G-12V-T-S	DC - 1000		X	65	0,3	1,20	10	SMA f / SMA f
SP8TR-1G-12V-T-N	DC - 1000		X	65	0,3	1,20	10	N f / N f
SP8TA-1G-12V-T-S	DC - 1000	X		65	0,4	1,25	10	SMA f / SMA f
SP8TA-1G-12V-T-N	DC - 1000	X		65	0,4	1,25	10	N f / N f
SP8TR-3G-12V-T-S	DC - 3000		X	30	0,9	1,25	10	SMA f / SMA f
SP8TR-3G-12V-T-N	DC - 3000		X	30	0,9	1,25	10	N f / N f
SP8TA-3G-12V-T-S	DC - 3000	X		30	1,2	1,30	10	SMA f / SMA f
SP8TA-3G-12V-T-N	DC - 3000	X		30	1,2	1,30	10	N f / N f

WIDEBAND POWER AMPLIFIER 1MHz-2GHz

P/N	F min (MHz)	F max (MHz)	Output Power (W)	Gain (dB)
AAP-25-0.1-30	0.1	30	25	47
AAP-10-2-60-C	2	60	10	35
AAP-25-2-60-C			25	35
AAP-100-2-60			100	55
AAP-200-0.5-6	0.5	6	200	50
AAP-300-0.2-30	0.2	30	300	57
AAP-300-2-30	2	30	300	57
AAP-400-0.5-2	0.5	2	400	58
AAP-400-1-1	1	1	400	56
AAP-500-0.2-6	0.2	6	500	57
AAP-800-0.5-2	0.5	2	800	56
AAP-1000-2-10	2	10	1000	54



P/N	Output Power (W)	Technical specifications			
		F min (MHz)	F max (MHz)	Gain (dB)	Rack 19"
AAP-200-2000-60	60	200	2000	50	4U
AAP-1-1000-2	2	1	1000	45	2U
AAP-1-1000-6	6			45	
AAP-1-1000-25	25			50	
AAP-20-1000-10	10	20	1000	40	2U
AAP-20-512-100	100	20	512	50	4U
AAP-20-512-25	25			45	2U
AAP-30-512-40	40	30	512	50	4U
AAP-30-512-60	60			50	
AAP-30-512-100	100			53	
AAP-100-500-80	80	100	500	50	4U
AAP-470-860-20	20	470	860	45	2U
AAP-225-400-40	40	225	400	50	4U
AAP-200-400-100	100	200			
AAP-30-174-200	200	30	174	56	4U
AAP-30-88-100	100	30	88	50	4U
AAP-850-870-100	100	850	870	52	4U
AAP-88-108-300	300	88	108	56	4U





ENVIRONNEMENTAL

Products are designed and manufactured following our stringent in house quality assurance procedures. They are capable of withstanding without damage the following environmental screening tests as defined by MIL-Std-202.

TESTS	MIL-STD-202	DESCRIPTION
Operating Temp.	-25 to +80°C	-25 to +80°C
Storage Temp.	-55 to +150°C	-55 to +150°C
Altitude	Method 105/E	150,000 feet
Humidity	Method 106	90% Relative Humidity, 65°C
Thermal Shock	Method 107/B	-55°C to +85°C
Drop	Method 203	Random, 45 Minutes
Vibration	Method 204/D	10 to 2000 Hz, 20 G's, 12 Hours
Solderability	Method 208	95% Coverage
Solder Heat	Method 210/B	260°C, 10 Seconds
Terminal Strength	Method 211/A	2 lbs., 10 Seconds
Terminal Fatigue	Method 211/C	1 lb., 3 cycles
Solvent Resistance	Method 215	15 Minutes

CAPABILITIES

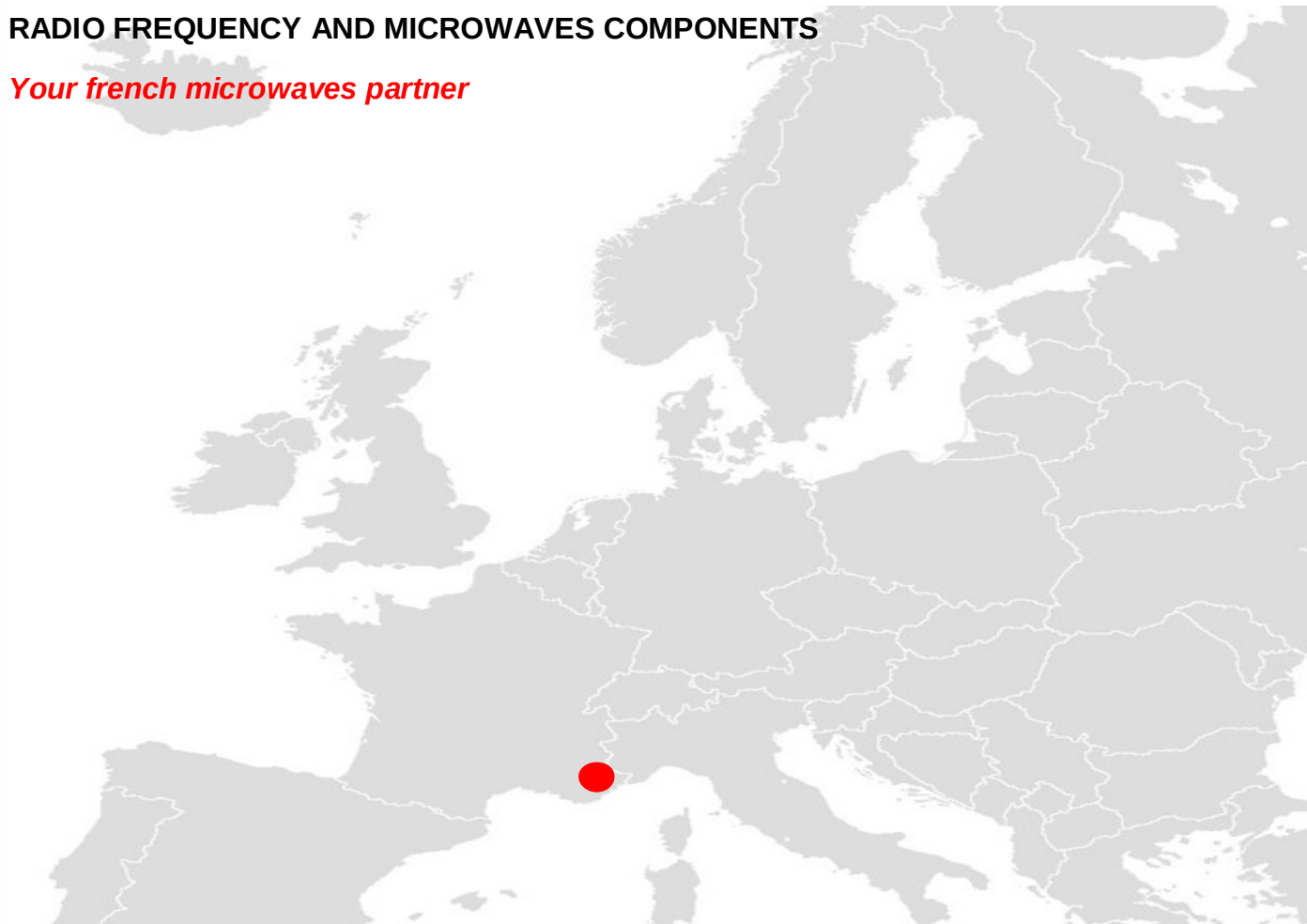
Our in house integrated organization gives us a pro active attitude. We are using up to date CAD and electromagnetic software to improve development time.

Our in house production capabilities such as CNC machine, SMT pick en place machine and microwave test equipment give us manufacture and process mastery to serve major company in Europe.



RADIO FREQUENCY AND MICROWAVES COMPONENTS

Your french microwaves partner



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