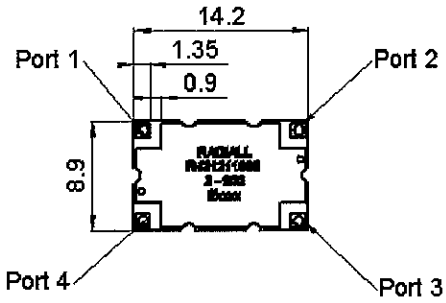
SMT HYBRID COUPLER

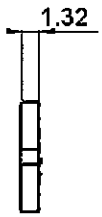
0.8 - 1.2 GHZ

R431.211.005

Series : **Coupler**

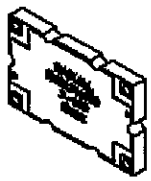
R431.211.005 : R431.211.000 packaged in reel of 100 couplers
R431.211.005W : for unit order





RF Port Configuration				
	Input	Isol	-90°	0
Port	1	2	3	4
	2	1	4	3
	3	4	1	2
	4	3	2	1

Scale 1:1



All dimensions are in mm.

SMT HYBRID COUPLER

0.8 - 1.2 GHZ

R431.211.005

Series : **Coupler**

ELECTRICAL CHARACTERISTICS

		Specified band	Extended band
Frequency (GHz)		0.815 - 1.1	0.8 - 1.2
V.S.W.R	≤	1.18	1.2
Impedance (Ω)		50	
Nominal coupling (dB)		3	3
Amplitude balance (dB)	±	0.3	0.55
Phase balance : 90 (°)	±	3	3
Isolation (dB)	≥	22	21
Insertion loss (dB)	≤	0.23	0.23
Average power at 25°C (W)		100	100

MECHANICAL CHARACTERISTICS

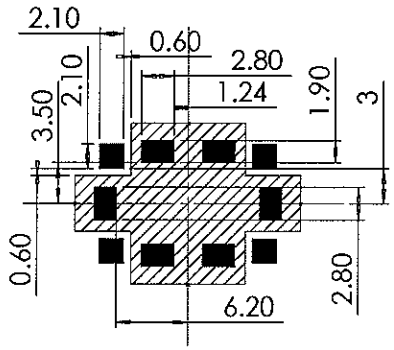
Mounting	Surface Mount Technology
RF Port finish	Chemical Sn
Weight	1.000 g

ENVIRONMENTAL

Operating temperature range	-55 / +85	°C
Storage temperature range	-55 / +85	°C

SPECIFICATION

SOLDERING PATTERN



Issue : 0545 G

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

RADIALL®

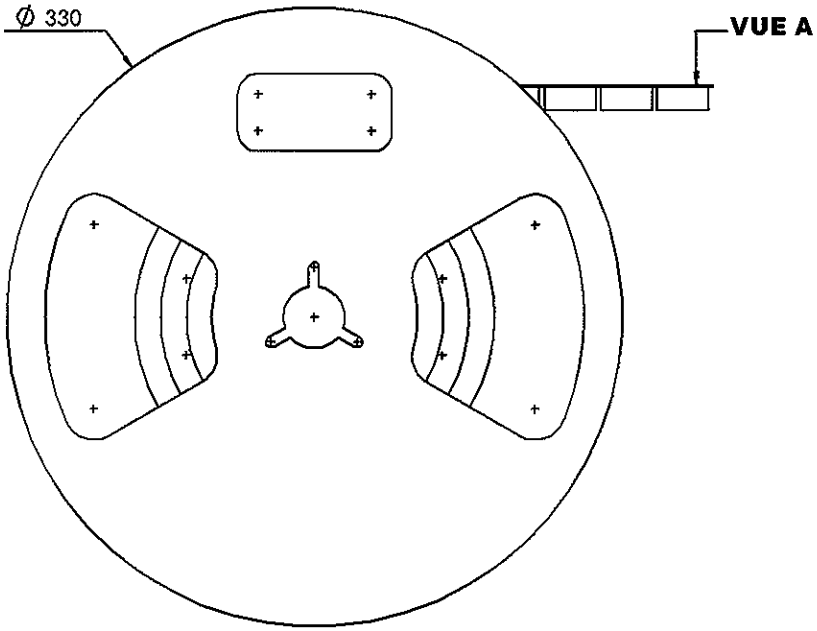
SMT HYBRID COUPLER

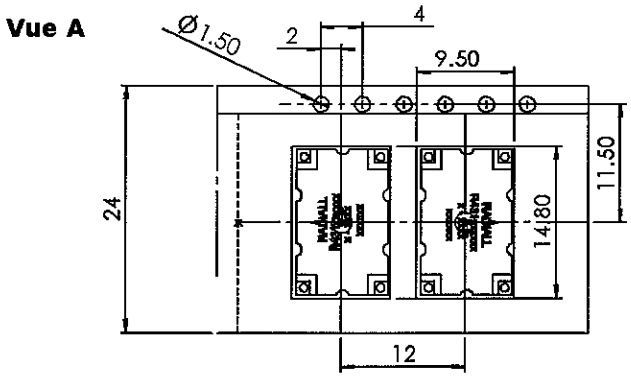
0.8 - 1.2 GHZ

R431.211.005

Series : **Coupler**

PACKAGING





RADIALL®

SMT HYBRID COUPLER

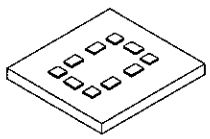
0.8 - 1.2 GHZ

R431.211.005

Series : **Coupler**

SOLDERING GUIDELINES

(1) *Solder cream deposition :*



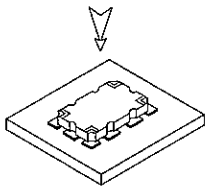
RADIALL recommends using a solder cream Sn96.5 - Ag3 - Cu0.5 type " no clean - low residue " (50 % solid residue of flux quantity) that will permit the elimination of the cleaning operation step after soldering . When using a conventional solder cream with high level of flux solid residue , it is important to incorporate a good cleaning operation step in the fifteen minutes after soldering .

The substrate must have chemical Sn protection . Please optically verify that the edges of the zones are clean , without contaminates and that the PCB zoned areas have not oxydated .

Solder cream may be applied on the board with screen printing or dispenser techniques . For either method , the paste solder must be coated to appropriate thickness and shapes to achieve good solder wetting and adequate insulation .

The design of the mounting pads and the stencilling area are given in the applicable note , for a thickness of the silk-screen printing of 150 µm .

(2) *Placement of the coupler :*

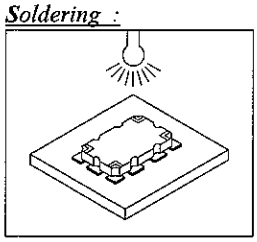


For small , lightweight components such as chip components , a self - alignment effect can be expected if small placement errors exist . However , this effect is not as expected for couplers components and they require precise positioning on their soldering pads ; typically ± 0.25 mm.

Place the coupler onto the PCB with automatic pick and place equipment . Various types of suction can be used .

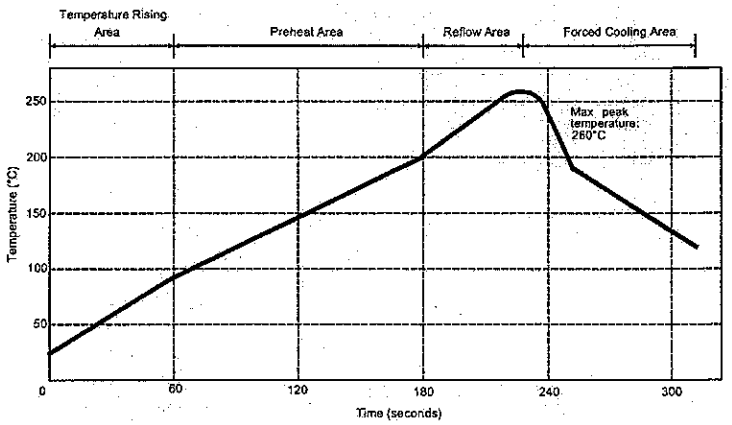
RADIALL does not recommend using adhesive agents on the component or on the PCB .

(3) *Soldering :*



Please follow RADIALL's recommended temperature profile .

This profile can be used with Infra - red reflow , Vapor phase soldering and Forced air convection .



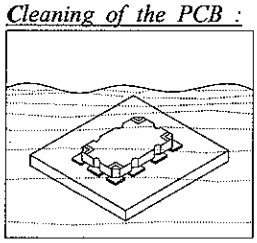
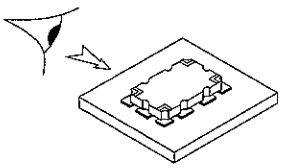
Parameter	Value	Unit
Temperature rising Area	1 - 4	°C/sec
Max Peak Temperature	260	°C
Max dwell time @260°C	10	sec
Min dwell time @235°C	20	sec
Max dwell time @235°C	60	sec
Temperature drop in cooling Area	-1 to - 4	°C/sec
Max dwell time above 100°C	420	sec

SMT HYBRID COUPLER

0.8 - 1.2 GHZ

R431.211.005

Series : **Coupler**

(4) *Cleaning of the PCB :* 	When using a conventional solder cream with high level of residue , please clean the PCB with a substitute product , similar to CFC , that complies to the International Environment Agency rules . It is important to do the cleaning operation step less than fifteen minutes after reflow . RADIALL recommends using ultrasonic waves or vapor phase process .
(5) *Quality check :* 	Verify by visual inspection that component is centred on the mounting pads . Solder joints : verify by visual inspection that the formation of meniscus on the pads are proper , and have a capilarity amount upper the third of the height .