

COAXIAL ATTENUATORS

E.S.A./S.C.C. SPACE QUALIFIED



europaean space agency
agence spatiale européenne

Certificate of Qualification No. 178

This is to certify that RADIALL, La Verpilliere, France
has been qualified by ESA for the supply of R.F. Attenuator, Type R413
for use in ESA space programmes, according to ESA/SCC Generic
Specification 3403 and Detail Specification 3403/005
as recommended by the Space Components Coordination Group.
This certificate is valid until January 1993.

Head of Product Assurance
and Safety Department

Date
24 January 1991

Part Number RADIALL	Part Number E.S.A. / S.C.C.
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R413600000	SCC 3403005 01B
R413601000	SCC 3403005 02B
R413602000	SCC 3403005 03B
R413603000	SCC 3403005 04B
R413604000	SCC 3403005 05B
R413605000	SCC 3403005 06B
R413606000	SCC 3403005 07B
R413607000	SCC 3403005 08B
R413608000	SCC 3403005 09B
R413609000	SCC 3403005 10B
R413610000	SCC 3403005 11B

Part Number RADIALL	Part Number E.S.A. / S.C.C.
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R413611000	SCC 3403005 12B
R413612000	SCC 3403005 13B
R413613000	SCC 3403005 14B
R413614000	SCC 3403005 15B
R413615000	SCC 3403005 16B
R413616000	SCC 3403005 17B
R413617000	SCC 3403005 18B
R413618000	SCC 3403005 19B
R413619000	SCC 3403005 20B
R413620000	SCC 3403005 21B

Part Number RADIALL	Part Number E.S.A. / S.C.C.
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R413622000	SCC 3403005 22B
R413624000	SCC 3403005 23B
R413626000	SCC 3403005 24B
R413628000	SCC 3403005 25B
R413630000	SCC 3403005 26B
R413632000	SCC 3403005 27B
R413634000	SCC 3403005 28B
R413636000	SCC 3403005 29B
R413638000	SCC 3403005 30B
R413640000	SCC 3403005 31B

COAXIAL ATTENUATORS

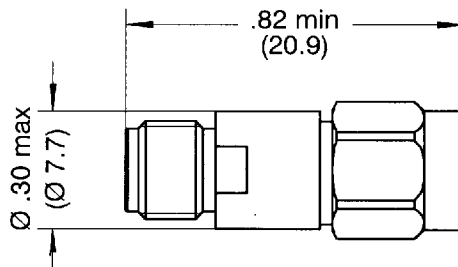
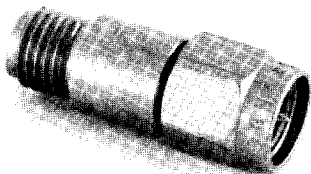
E.S.A./S.C.C. SPACE QUALIFIED -- SMA



1 - 2 WATTS

These Space coaxial attenuators have been approved by E.S.A. (European Space Agency). They can be supplied tested to different levels of Verification Of Qualification (in accordance with E.S.A./S.C.C. specification 3403/005) testing level B1, B2 and B3.

Part Number	Freq. range (GHz)	ATTENUATION (dB)				V.S.W.R					Power (W) avg	Flatness (dB)
		Nom.	Tolerance (dB)			DC - 4	4 - 8	8 - 12.4	12.4 - 18	18 - 22		
			DC	<DC-18	18-22							
R413600000	DC - 22	0	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	F < 13GHz
R413601000		0.5	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	0.05dB/0.5GHz
R413602000		1	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413603000		1.5	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413604000		2	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413605000		2.5	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413606000		3	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413607000		3.5	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413608000		4	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413609000		4.5	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413610000		5	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413611000		5.5	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413612000		6	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413613000		6.5	± 0.15	± 0.30	± 0.40	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413614000		7	± 0.20	± 0.40	± 0.50	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	F > 13GHz
R413615000		7.5	± 0.20	± 0.40	± 0.50	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	0.07dB/0.5GHz
R413616000		8	± 0.20	± 0.40	± 0.50	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413617000		8.5	± 0.20	± 0.40	± 0.50	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413618000		9	± 0.20	± 0.40	± 0.50	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413619000		9.5	± 0.20	± 0.40	± 0.50	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413620000		10	± 0.20	± 0.40	± 0.50	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	2	
R413622000		11	± 0.20	± 0.50	± 0.60	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	1	F ≤ 13GHz
R413624000		12	± 0.20	± 0.50	± 0.60	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	1	0.07dB/0.5GHz
R413626000		13	± 0.20	± 0.50	± 0.60	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	1	
R413628000		14	± 0.20	± 0.50	± 0.60	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	1	
R413630000		15	± 0.30	± 0.50	± 0.60	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	1	F > 13GHz
R413632000		16	± 0.30	± 0.50	± 0.60	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	1	0.1dB/0.5GHz
R413634000		17	± 0.30	± 0.50	± 0.60	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	1	
R413636000		18	± 0.30	± 0.50	± 0.60	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	1	
R413638000		19	± 0.30	± 0.50	± 0.60	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	1	
R413640000		20	± 0.30	± 0.50	± 0.60	≤ 1.15	≤ 1.20	≤ 1.25	≤ 1.35	≤ 1.50	1	



Weight : 5 g max.