# DOCUMENT CHANGE REQUEST

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|---|---|---|---|
| DCR number 577 | Changes required for: N/A | Originator: Alain Blanchard |
| Date: 2011/09/29 | Date sent: 2010/02/18 | Organisation: CNES |
| Status: IMPLEMENTED | | |

| | | | |
|---|---|---|---|
| Title: | Attenuator, RF Coaxial, Type SMA, DC-22GHz | | |
| Number: | 3403/005 | Issue: | 3 |

Other documents affected:

Page:

1.4.2 Component Type Variants and Range of Components page 5

1.5 MAXIMUM RATINGS

Paragraph:

1.4.2 Component Type Variants and Range of Components page 5

1.5 MAXIMUM RATINGS

Original wording:

Proposed wording:

See atached file

Justification:

A DC Shunt is a component with the same design, material and technologies than an attenuator 0 dB.

A resistance between 4 and 10 kOhms is inserted in series with the 0dB line to protect the components against DC bias inside the RF line. Many of our Customers use the DC shunt to protect their equipment in place of attenuator 0dB

Radiall propose to add DC shunt components in the next verification of qualification to qualify this new variant.

Attachments:

Proposed_wording_of_change3403005.pdf, null

Modifications:

The following changes replace the original contents of DCR577:

Para 1.4.2 (Variant Table):
Add new Variant 32 and notes 1 & 2 as follows:
Variant Number: 32 (Note 1)
Nominal attenuation (dB): 0
Att Tolerance (dB)(at DC / DC to 18Ghz/ 18 to 22Ghz): 0.2 / 0.3 / 0.4
Att flatness: same as for Variant 01
VSWR: same as for Variant 01
Max Rated RF Power (W)(PRF): 2 or 5 (Note 2)
Max Weight (g): 5

Note 1: Variant 32 is a DC shunt attenuator that includes a high value series resistance element.

Note 2: PRF =2W for f=DC to 22GHz; PRF =5W for f=5GHz to 22GHZ.

Amend 8th column header to be: Maximum Rated RF Power (W)(PRF)

Para 1.5 (Maximum Ratings table):
For Peak Power, amend Max Rating to be Note 3 (was Note 1)
For RF Power, Peak Power add to the remarks:
Tamb <=+25C
For DC Power replace Tamb =+25C by Tamb <=+25C
For Coupling Nut Torque change remark to Note 4 (was Note 3)

Amend note 1 to read:
1. The maximum rated RF Power is specified in Component Type Variants and Range of Components. The maximum rated DC Power shall be the same value.

amend note 2 to read:
2. RF Power shall be derated against operating temperature as follows:
For Tamb >+25C, derate linearly to 500mW at +125C

Renumber note 3 to be note 4 and change reference to be "(see Physical dimensions)" (was (See Para. 1.6))

Add new note 3:
3. For Variants 01 to 31 the maximum rated Peak Power shall be 100xPRF for f =DC to 22GHz.
For Variant 32 the maximum rated Peak Power shall be 50W for f =5GHz to 22GHz.

Para.2.6.1 (Room Temp Electrical Measurements table)
Add new characteristic as follows:
Characteristics: Series Resistance
Symbols: Rs
Test Methods & Conditions: f=DC, Note 5, Variant 32 only
Limits: 4 min, 10 max

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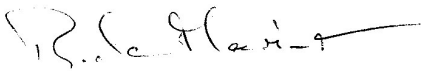
|---|
| Units: dB |
| Approval signature: |
|  |
| Date signed: |
| 2011-09-29 |

**Proposed wording of change**

| Var. N° | Attenuation dB | Attenuation tolerance Vs frequency | | | Attenuation Flatness | VSWR | Rated Power W | Mass g |
|---|---|---|---|---|---|---|---|---|
| | | DC | DC to 18GHz | 18 < F ≤ 22 GHz dB (±) | | 0 < F ≤ 18 GHz | | |
| 99 | 0 | 0.2 | 0.3 | 0.40 | F ≤ 13 GHz ±0.05dB/0.5 GHz<br><br>F> 13 GHz ±0.07 dB/0.5GHz | DC< f ≤ 4 GHz <1.15<br><br>4< f ≤ 8 GHz <1.20<br><br>8 < f ≤ 12.4 GHz <1.25<br><br>12.4 < f ≤ 18 GHz <1.35<br><br>18< f ≤ 22 GHz <1.5 | 2 | 5 |

Additional:
Maximum ratings in paragraph 1.5 for variant 99 only

| Characteristics | Symbols | Maximum Ratings | Units | Remarks |
|---|---|---|---|---|
| DC impedance | Zc | 4 to 10 | KΩ | between coaxial line and body |
| RF Power | P | 2<br>5 | W(1) (2) | DC to 22GHz<br>5 to 22GHz |
| Peak Power (at 25°) (3) | Pp | 50 | W | Circuit power handling but not useable below 5GHz due to multipactor effect |
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1) See Figure 1.
2) (2) Multipactor free +6dB margin