



<h1 style="margin: 0;">Shielding effectiveness degradation on AxoMach cable assembly</h1>	Edition: 1 Date: 28/06/2022 Status: CLOSED
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CNES INFORMATION

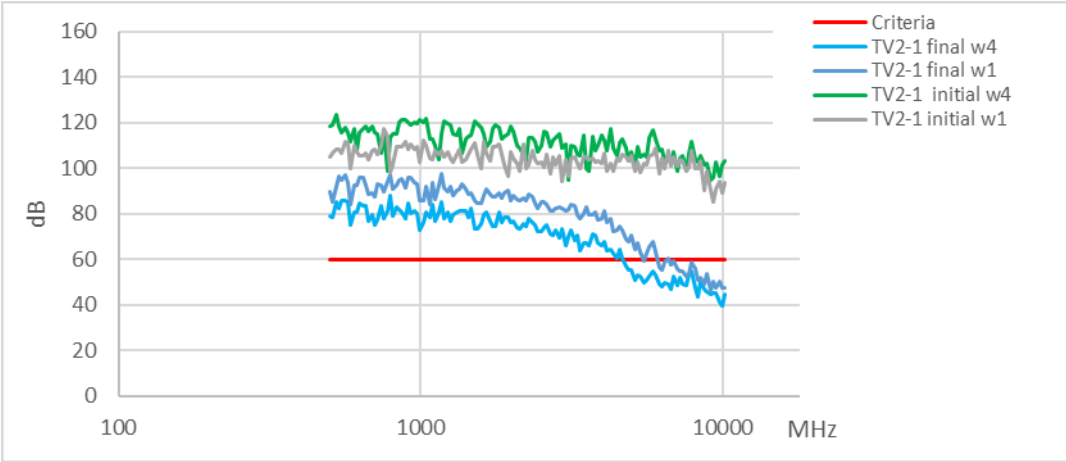
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MANUFACTURER / PART

AXON ROUTE DE CHALONS EN CHAMPAGNE 51210 MONTMIRAIL FRANCE	FAMILY : CABLE ASSEMBLY SUB-FAMILY : HIGH DATA RATE TYPE : AXOMACH PART NUMBER : 3409/001 LOT DATE CODE : ALL DC
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OCCURRENCE AND FAILURE DESCRIPTION

During the qualification tests campaign for the ESCC approval of the AxoMach cable assembly (based on the chart F4A of the generic specification ESCC 3409, issue 1), a degradation of the shielding efficiency has been observed after environmental sequence. The shielding efficiency degradation appears in a frequency range close to 10 GHz with values lower than 60 dB (see graph hereafter) which is the applicable minimum requirement defined in the ESCC detailed specification (ESCC 3409/001 issue 5).



Shielding effectiveness results on test vehicles after environmental sequence (green and grey curves correspond to initial values, blue curves correspond to the ones observed after temperature cycling)

PROGRESS

Root cause was identified and refers to a deformation of the conductive gaskets after thermal constraints (200 cycles) that is located at the interface between male and female connector housing.

Axon is currently testing other conductive gaskets shape which should guarantee a better stability of shielding effectiveness (an evaluation campaign is ongoing).

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RECOMMENDATIONS

For users that are planning to use or have already deployed AxoMach cable assembly, it is recommended to perform a risk assessment dealing with the impact of a reduced shielding efficiency (lower than 60 dB) in the range close to 10 GHz, for their application.

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