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Subject: H-P-ASP-LT-4247_AI 12 of H-P-ASP-MN-3961
Importance: Low

Mail ref : H-P-ASP-LT-4247

This closes the AI 12 of H-P-ASP-MN-3961_SPIRE IF Meeting 18-11-03
"Alcatel will check the type of EMC testing will be performed on the AVM"

The existing AVM tests objectives and definition are summarised here under:
extracted from H-P-TN-AI-052 (Alenia). The tests specification are not yet available.

All this will be discussed during EMC WG (next one 28th-29th January), and is submitted to a final acceptance and decision concerning AVM EMC tests including all instruments. This particularly because of all instruments AVM EMC reduced similarity with FM (hardware, few EM, simulators, dummies, ...).

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Extract from H-P-TN-AI-052 (Alenia):

One of AVM objectives is to perform "conducted EMC pre-qualification",

General definition:

The EMC conducted Test will preliminary check the conducted electromagnetic compatibility of the Satellite AVM units. The test will demonstrate that the AVM will perform within its specifications. During these tests the AVM will not exhibit spurious or inadvertent response to any combination of operational modes and conditions that can be tested.

Detailed definition:

HERSCHEL AVM EMC Conducted test -

Test Objective:

The purpose of this test is to verify the Herschel SVM AVM behaviour and system margin w.r.t. EMC conducted emission and susceptibility (both emission and susceptibility) requirements.

Final verification will be performed at SVM PFM configuration with all the SVM units installed.

Test Configuration :

SVM AVM in Herschel configuration with all the foreseen EM units integrated and tested:

· Harness, CDMU, PCDU, Herschel EM ACMS , EM TT&C units (Transponder, EPC+TWT, RFDN), Herschel warm units.

The bench and common panels will be made of wood table coated with a fine aluminium plate.

Test Description:

On the Primary power lines (28 V lines) between PCDU and Service Module

users, the following measurements will be performed:

Current spectral analysis on a 30 Hz ? 50 MHz frequency range (both differential and common mode)

RMS noise (voltage and current ripple) measurement on a 10 MHz frequency bandwidth

CE (+ 6 dB) will be injected (CS) on the output of PCDU both differential and common modes.

CE on most noisy signal bundles (TBD, based on the test results at unit level)

TWTA spectrum (XPND TX ON) up to 40 GHz (conducted mode)

End of extract

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