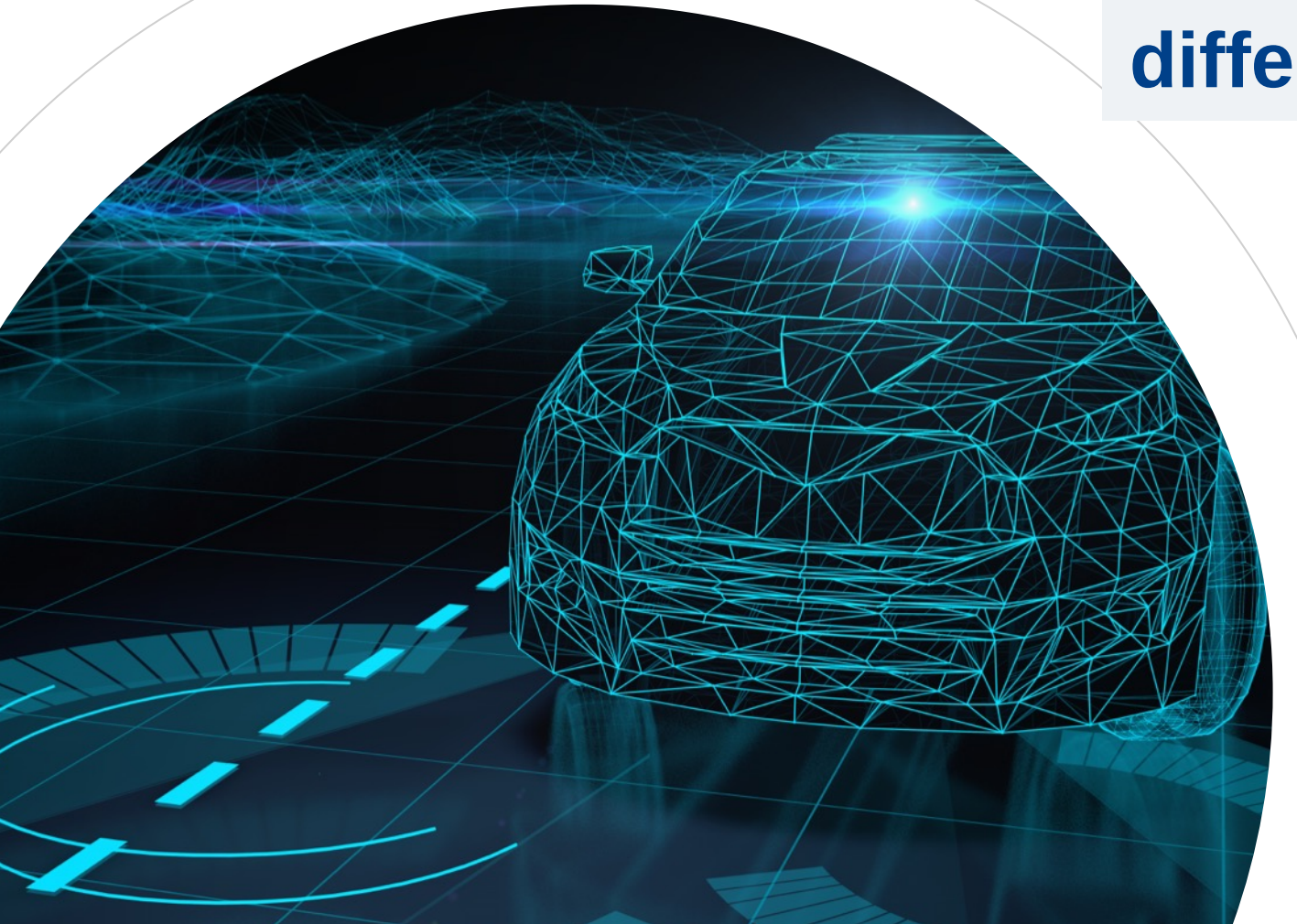
IEEE 802.3cy- REM and ETM for a AWG26 SDP under different test conditions



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Overview

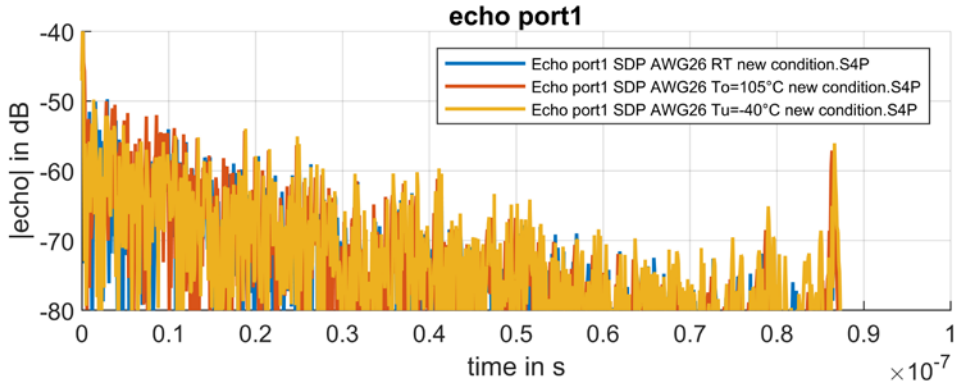
- Data taken from a AWG26 SDP.
- All the test was done on a raw cable without connectors
- Evaluation done like described in „sedarat_3cy_01_0315“ in IEEE 802.3cy
  6 Segments are canceled

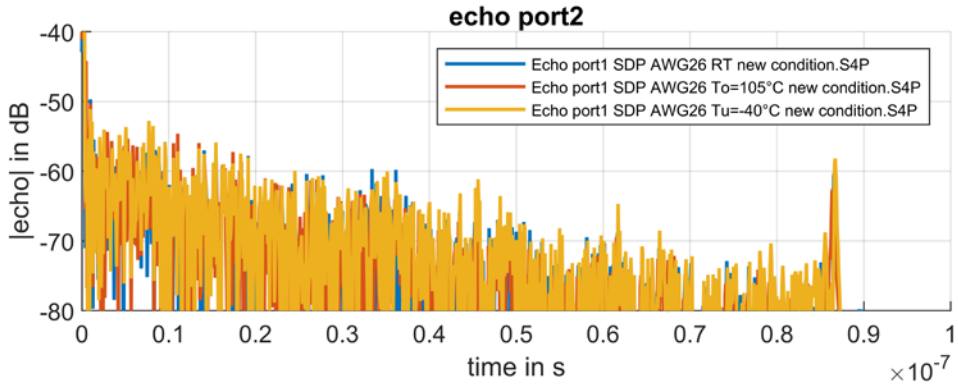
- The following test scenario where evaluated:
  - RT new condition, Tu=-40°C, To=105°C, RF after short term aging 240h@130°C;
    cyclic bending test according ISO 19642-7 (-2) (100 Cycles @RT and 10 Cycles @ Tu)

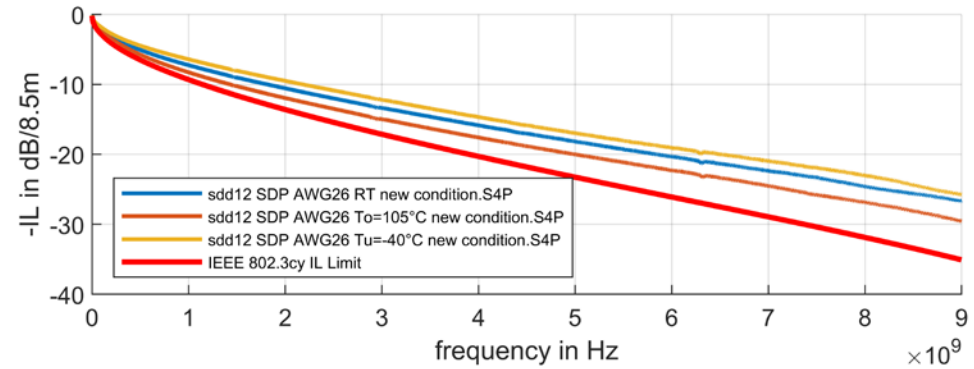
- **Caution: The frequency grid in this data is 2MHz, the start frequency is 300kHz.**
  We don’t expect from this deviations negative influence in the final analysis

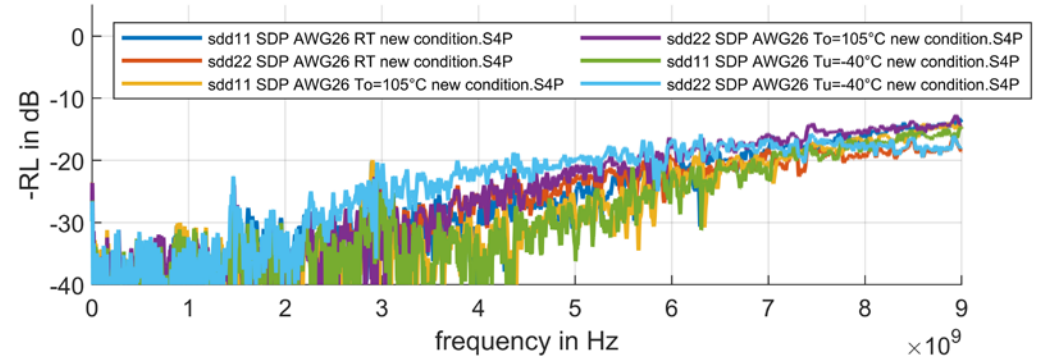
Measured values - Temperature

New condition @ -40°C / RT / + 105°C



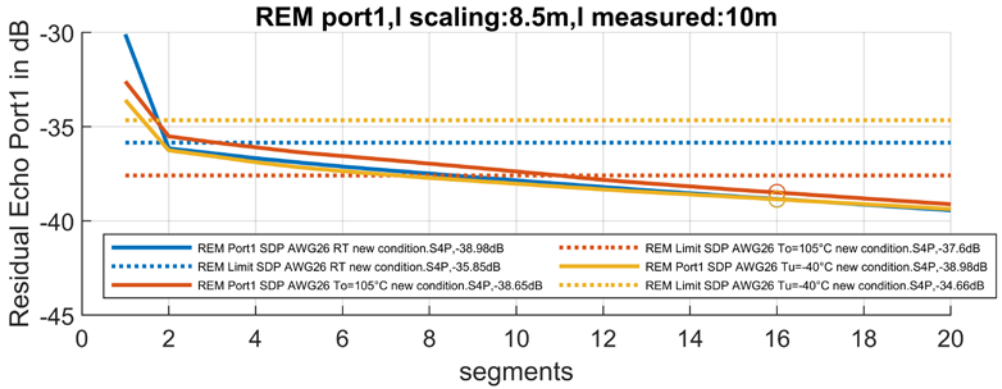


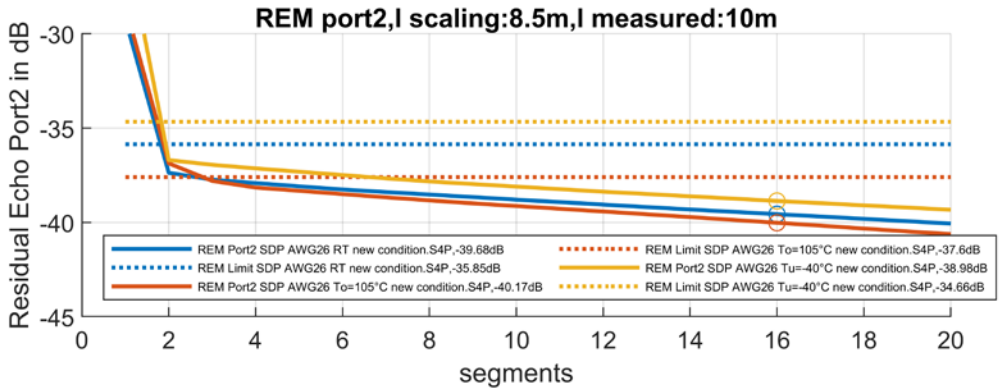


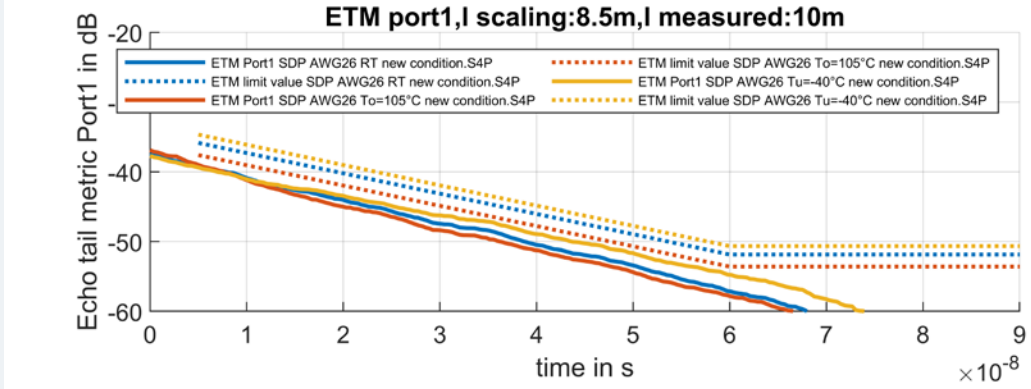


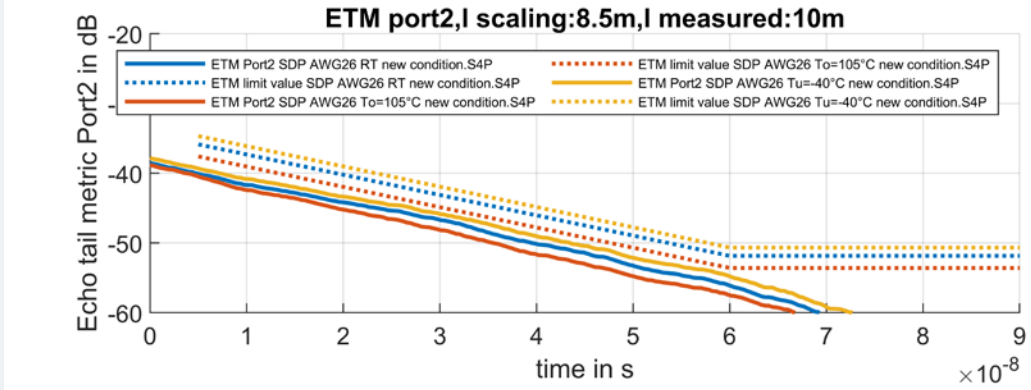
Calculated values - Temperature

New condition @ -40°C / RT / + 105°C



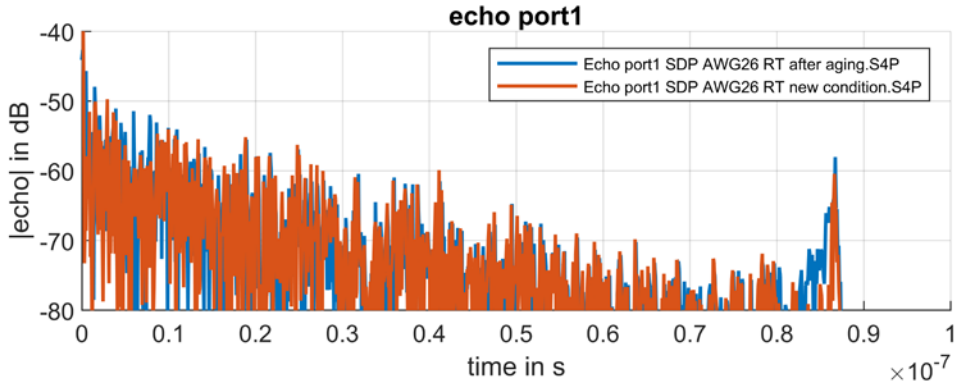


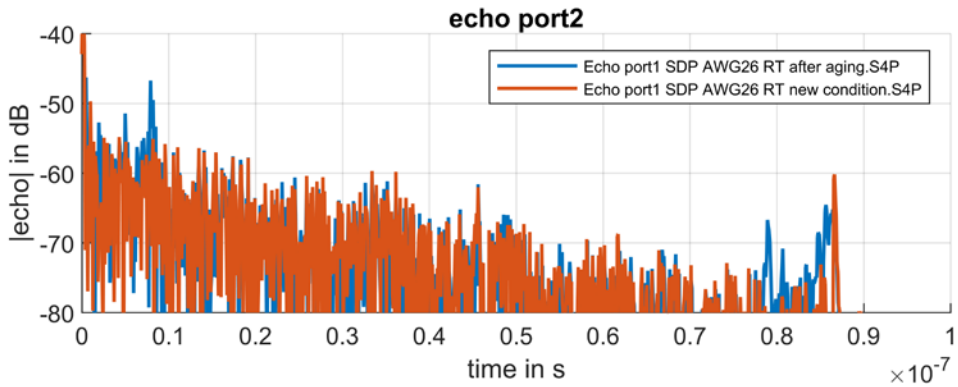


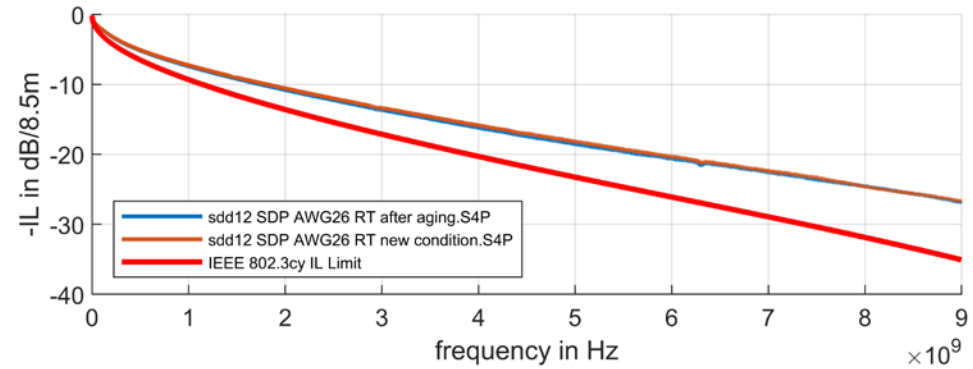


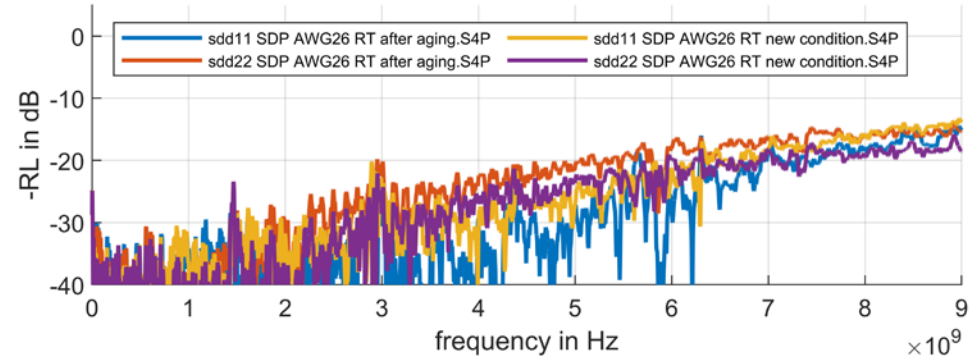
Measured values – short term aging

240h@ +130°C, measured at RT



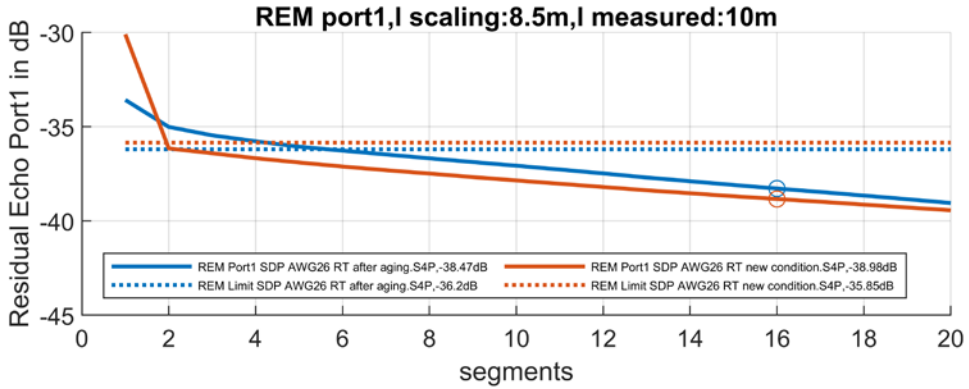


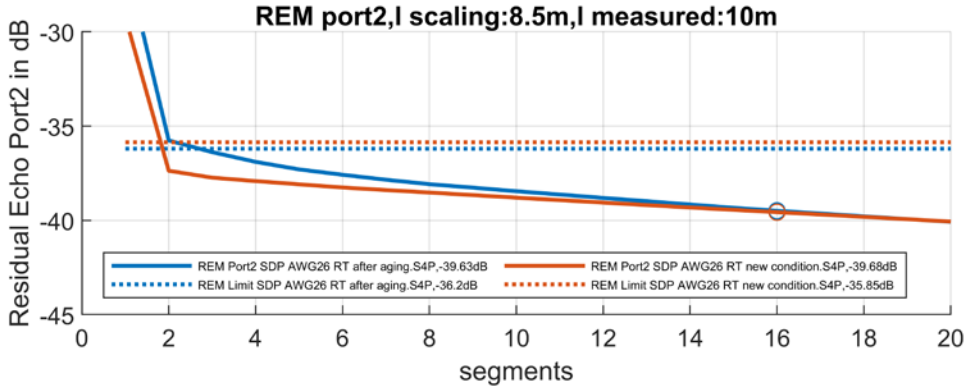


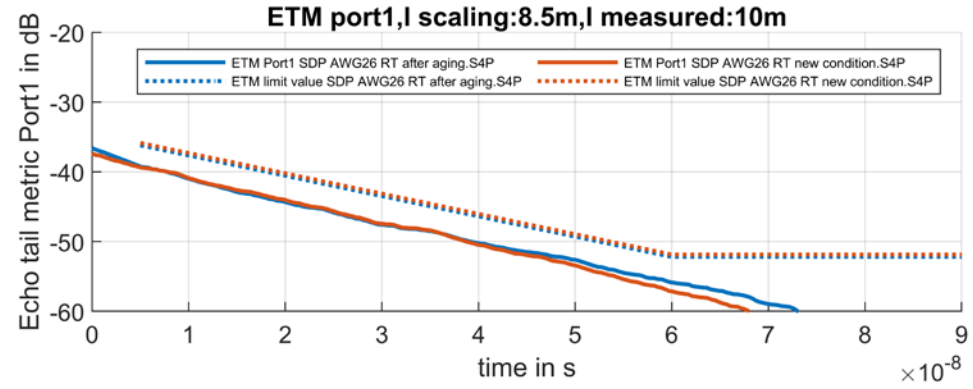


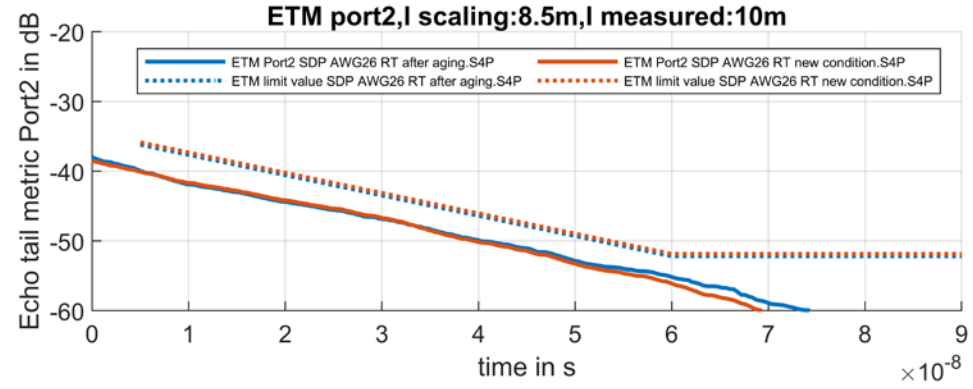
Calculated value – short term aging

240h@ +130°C, measured at RT









Test setup for cyclic bending

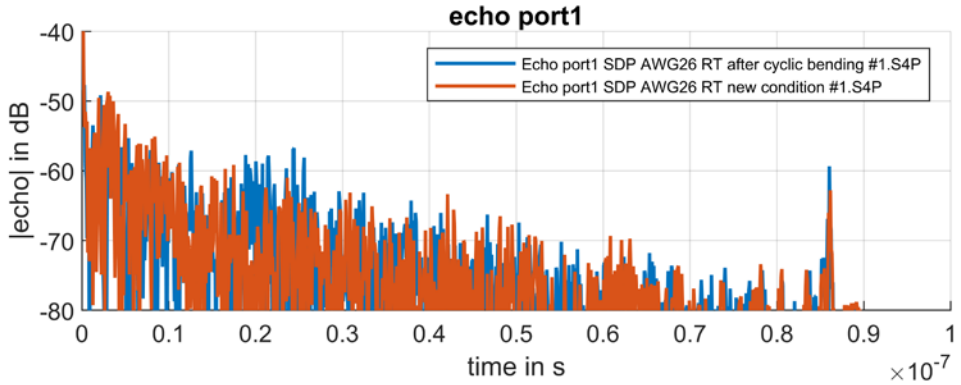
- Test procedure described in ISO 19642-2

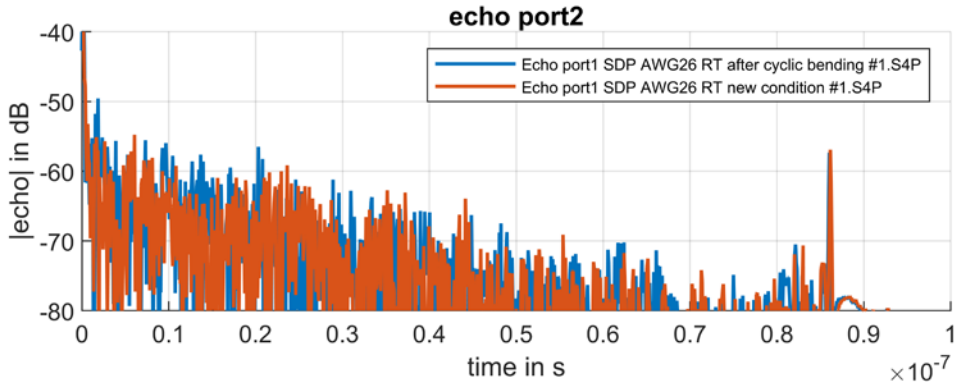
- Bending radius: 12x cable diameter
- 100 cycles @ room temperature
- 10 cycles @ T_u = -40°C
- Weight; 0,894 Kg
- Bending point ~ 40 cm distance from port 1

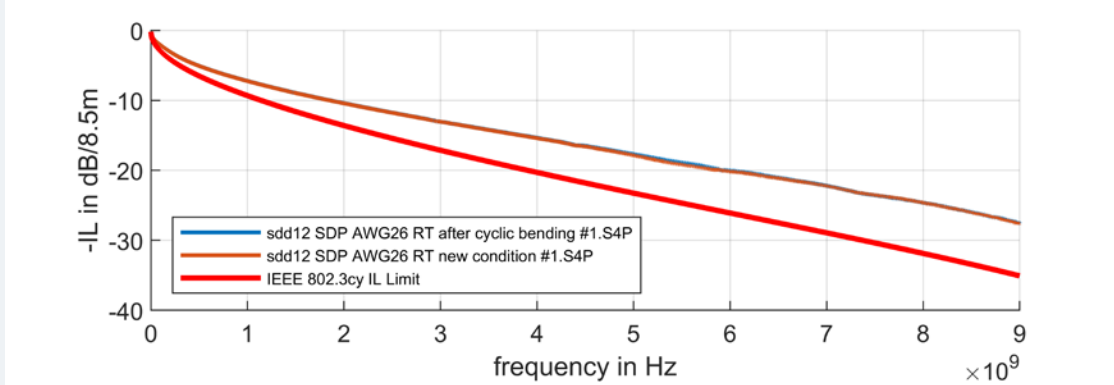
- Note: All changes in the test conditions like forces, length, bending radii, cycle numbers etc. will affect the results

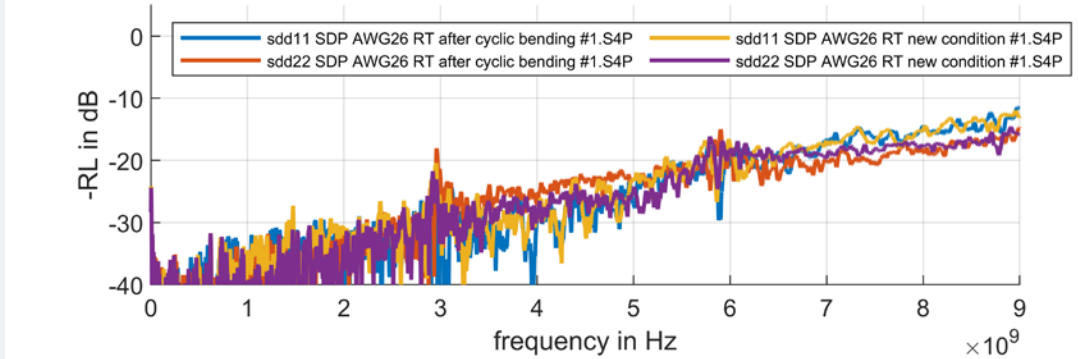
Measured values – cyclic bending test acc. ISO 19642-7

100cycles RT, 10 cycles @ -40°C







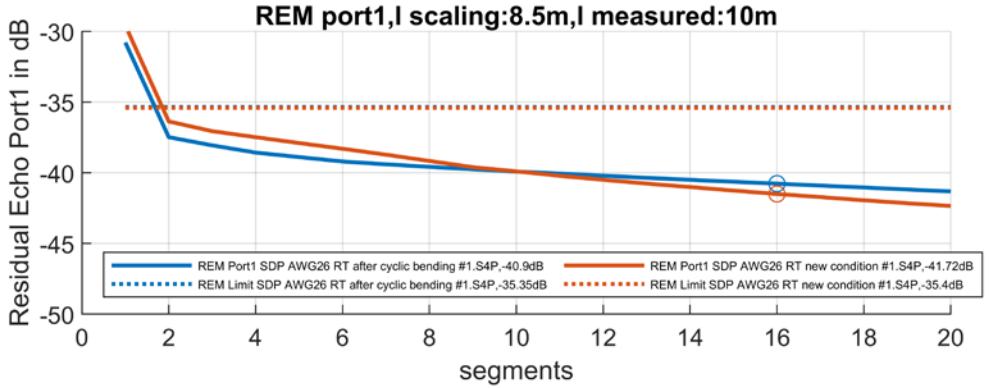


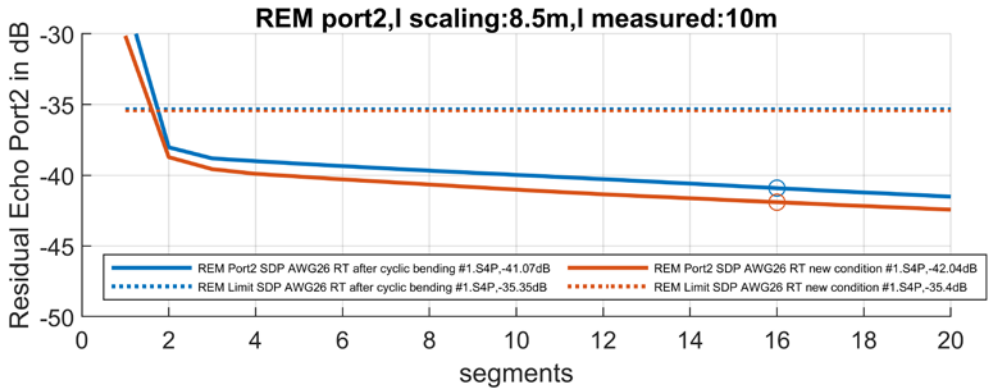
*

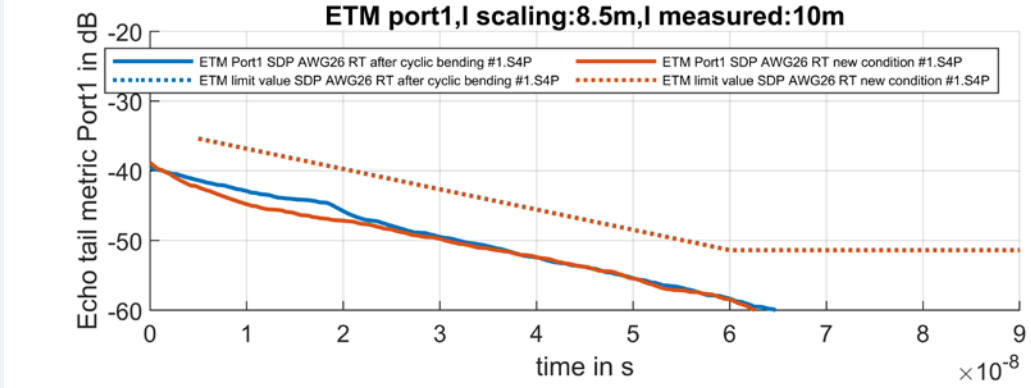
* The blue curve is nearby completely hidden by the orange curve

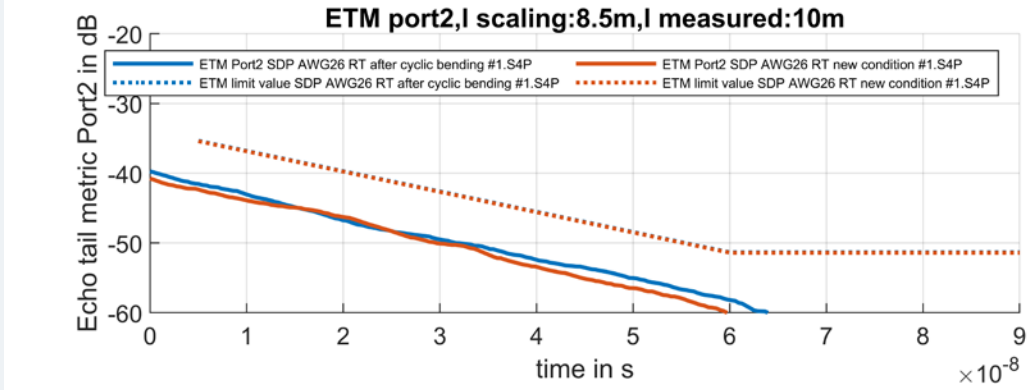
Calculated values – cyclic bending test acc. ISO 19642-7

100cycles RT, 10 cycles @ -40°C





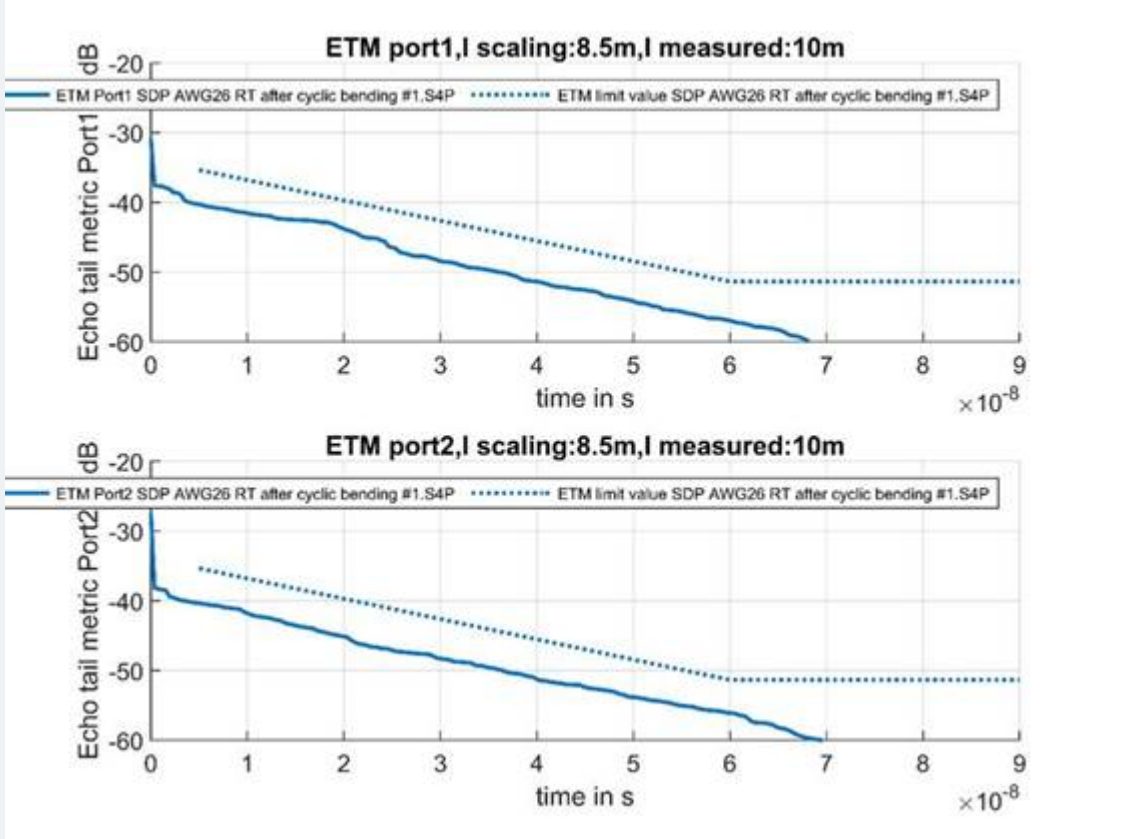




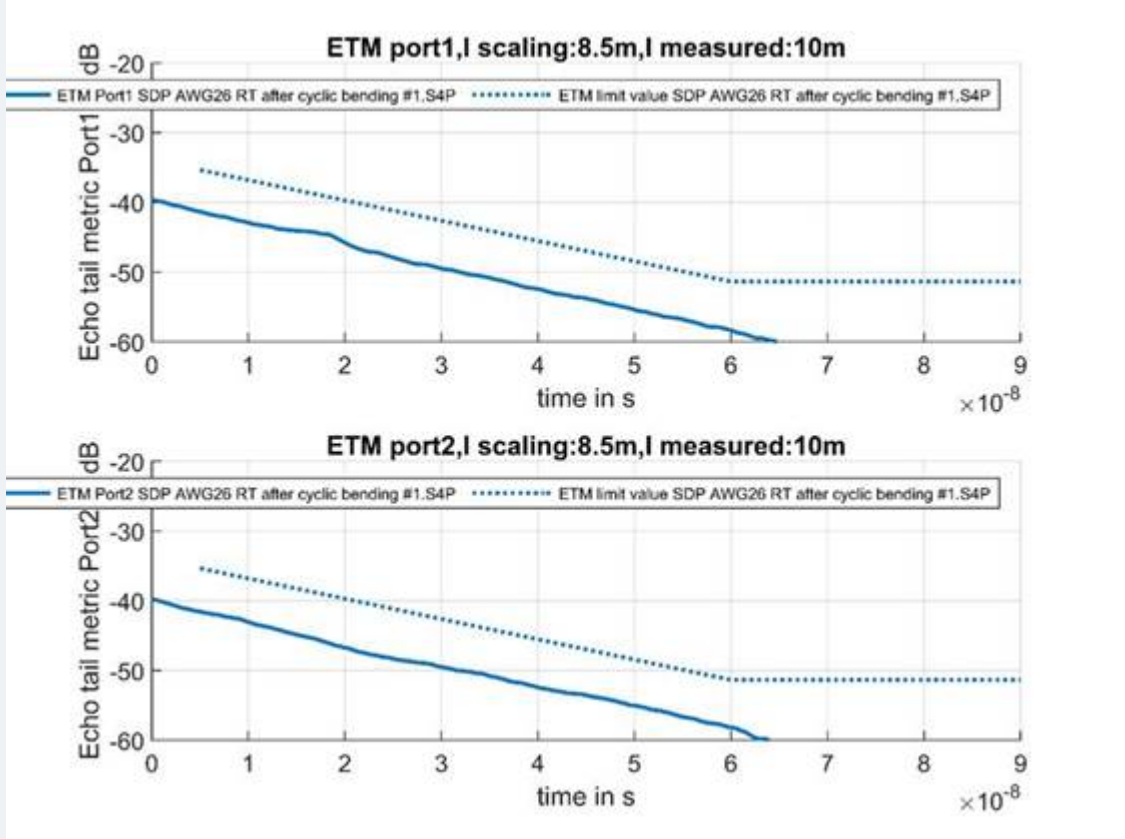
Calculated values – cyclic bending test acc. ISO 19642-7

Comparison between 6 cancelled segments and 0 cancelled segments

› 0 cancelled Elements



› Standard, 6 cancelled Elements



Summary

- The test represented typical automotive tests. The results show enough margin for the raw cable.
- The behavior of the link segment cannot be directly concluded from the cable measurements. The influence of the connector properties and the type of assembly can have a major impact on the values.

Thank you!