

SITRAN LR560 choice of units for testing

Frequency band of operation and Duty cycle

- The frequency band of operation is determined by the DDS and VCO circuits on the Technology board which is common to all 3 TLPR variants. These devices are programmed by the Main board processor. The processor, associated circuitry and relevant part of the software is common to the 2 main board variants (HART and Profi/FF), as is the part of the software stack that controls it.
- The Duty cycle is programmed onto the radar board by the Main board CPLD. The CPLD, associated circuitry and relevant part of the software is common to the two main board variants.
- As the main boards in the 3 TLPR variants have different communication ports the software load actually loaded onto the units has to be different to accommodate this, so these test are performed on all 3 variants.

AC Mains conducted emissions

None of the 3 units connect directly to ac mains and draw only a few mA from their DC supplies.

Pre-testing during development showed that all unit passed conducted emissions with good margin and HART variant was chosen for mains conducted emissions test.

Following on from testing to FCC 15.207 and 15.209 at RFI global, EMC testing was performed at Global EMC Inc to CISPR 11 and FCC 15.107. Results are presented in reports GEMC-61326-H-19966R3, GEMC-61326-PA-19966R3 and GEMC-61326-FF-19966R3 which confirm that HART variant was worst dc port conducted emissions so was the variants chosen for ac mains conducted emissions.

Radiated Emissions

The TLPR housing is a single piece of deep-drawn stainless steel with an aperture at the bottom for the 78 GHz radar and a glass window at the top so that the display may be seen.

Pre-testing during development had shown that the HART variant was worst case radiated emissions and so was the variant chosen for testing

Following on from testing to FCC 15.207 and 15.209 at RFI global, radiated EMC testing was performed at Global EMC Inc to CISPR 11 and 15.109. Results are presented in reports GEMC-61326-H-19966R3, GEMC-61326-PA-19966R3 and GEMC-61326-FF-19966R3 which confirm that HART variant was worst case radiated emissions.