



## Anaren Integrated Radio

# ETSI Documentation Requirements for Anaren Integrated Radio (AIR) Modules

Anaren AIR Modules have been designed for quick and easy integration into OEM or end-user products, and were tested by an independent accredited laboratory to demonstrate compliance to the ETSI specifications at a **Modular** level. The following describes the documentation required (and approximate cost) when integrating AIR Modules into an OEM or end-user product. All test time and cost estimates based on “typical” applications, and actual times and costs may be different.



**Modular Approval:** Applies to **OEM modules** intended for further integration into an end-user product. Requires the following **minimum** tests to demonstrate compliance:

- **RF Tests:** Confirms Radio Module meets emissions specifications (“Intentional Radiator”):
  - EN 300 220 (R08A, R08C)
  - EN 300 328 (R24A, R24C)
- **Immunity Tests:** (per EN 301 489-17) Confirms Radio Module stays within specifications when influenced externally:
  - EN 61000-4-2 ESD
  - EN 61000-4-3 Radiated Immunity
- **Other Tests:**
  - EN 62311 RF Exposure
  - EN 60950-1 Safety Evaluation Low Voltage Directive (SELV)

Anaren’s test reports may be used to satisfy the ETSI documentation requirements (provided the OEM module antenna type is contained in the Anaren test report and of equal or lesser gain). The cost to obtain copies of the reports is approximately \$350 *each* (payable to the certification laboratory).

**End Host Approval:** Applies to **end-user** products. Requires the following **minimum** tests to demonstrate compliance:

- **RF Tests:** For use of Anaren’s report, see comments under “Modular Approval”
- **Electromagnetic Compatibility (EMC):** Required for all products (radio module or not), confirms end-user product does not unintentionally violate emissions guidelines (“Unintentional Radiator”). Since the actual specifications vary depending upon end-user product type, contact a test laboratory for further information.
  - **Radiated Emissions:** Required for both battery and AC Mains powered products. Testing can typically be completed in 1 day at an approximate cost of \$1000-\$1500.
  - **Conducted Emissions:** Required for AC Mains powered products only. Testing can typically be completed in 1-2 day at an approximate cost of \$3000-\$4000.
- **Immunity Tests:** (per EN 301 489-17) Radio Module stays within specifications when influenced externally:
  - EN 61000-4-4 EFT
  - EN 61000-4-5 Surge
  - EN 61000-4-6 Conducted Immunity
  - EN 61000-4-8 Magnetic Immunity (if the product is susceptible to magnetic fields)
  - EN 61000-4-11 Voltage Dips & Interrupts
 Testing can typically be completed in 1-2 days at approximate cost of \$3000-\$4000.

For further support, please visit our website at <http://www.anaren.com>



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