

Keysight Technologies

E8707A Radar Target Simulator

76 GHz to 77 GHz



Overview

Fast, accurate and reliable test

Advanced Driver Assistance Systems, or ADAS, are the driving force of future road and passenger safety, and let us not forget, the future of autonomously driven vehicles. Automotive manufacturers are seeing a growing demand to add these new features for safer rides. Among the technologies driving new features is far range radar. For manufacturers of far range radar, this translates immediately to a ramp requirement in their production facility. Product test engineers are looking for a fast, accurate and reliable test solution, balancing between throughput and quality. Likewise, design and verification engineers require a quick solution to validate the performance of their radar products.

What we need is a focused tool that will accurately and repeatedly provide the required test and verification results. The Keysight E8707A radar target simulator is purpose built for exactly that need, providing reliable and fast simulation capabilities of targets for far range radar units.

Product description

The E8707A radar target simulator is designed for simulating targets for radar units in the 76 GHz to 77 GHz range. The approach from Keysight, a scalable, configurable target simulator, offered with the full simulated range from 10 m to 450 m; or with 2 fixed ranges. Available with a single horn antennae with in-built transceiver, or with dual-horn transmit and receive configuration.

Solution and implementation

The E8707A base unit will provide simulation of both the range and radar cross section. An optional signal source is required for simulation of Doppler for relative object speed. Figure 1 describes the solution in more detail.

A minimum physical distance of 1 m between the E8707A radar target simulator and the device-under-test (DUT), effectively reducing valuable manufacturing floor space (see Figure 2).

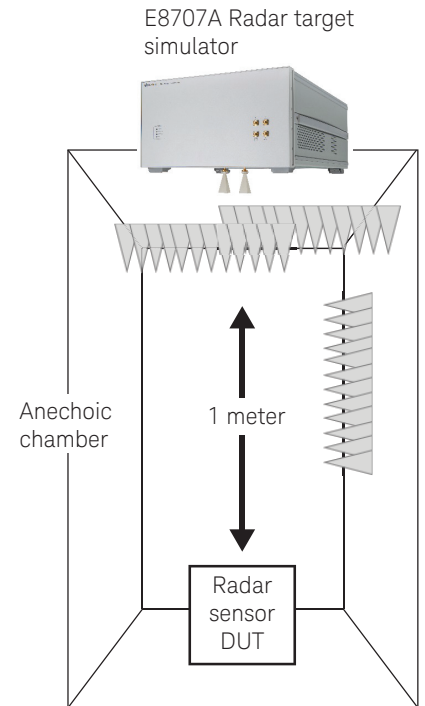


Figure 2.

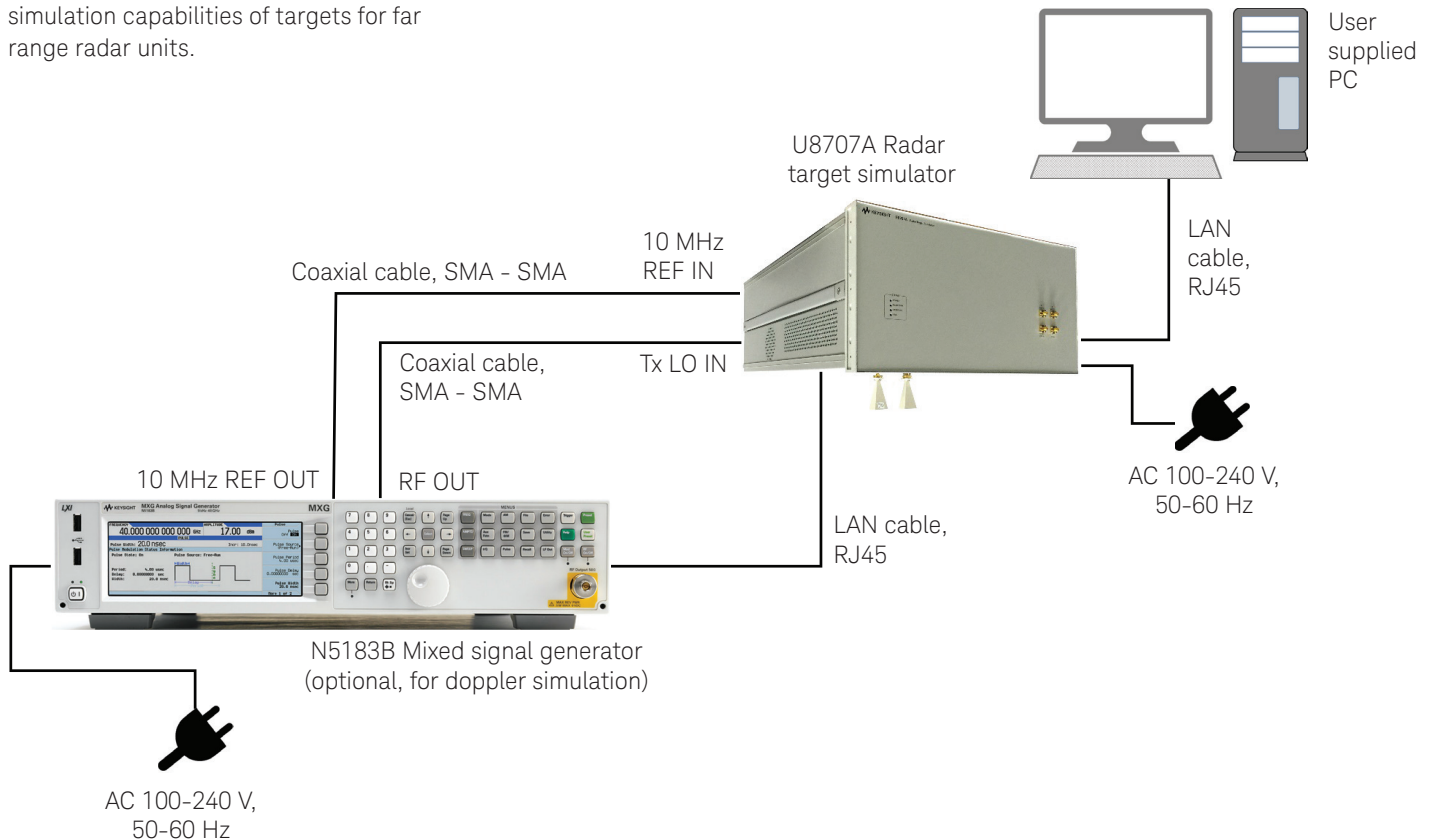


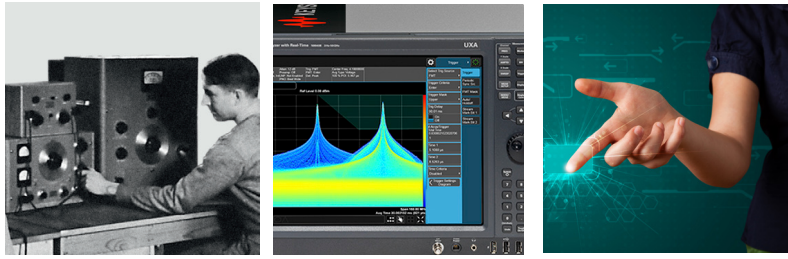
Figure 1.

Technical Specifications

| Product features | |
|-------------------------------|---|
| Benefits | |
| Scalable solution | <ul style="list-style-type: none"> – Available in full range, or in two fixed ranges – Optional Doppler feature for simulation of target speed – Dual or single horn |
| Simulated range | <ul style="list-style-type: none"> – Minimum 10 m – Maximum 450 m – Range accuracy ± 1 m |
| Physical test distance | <ul style="list-style-type: none"> – Minimum 1 m physical distance from E8707A to device-under-test |
| Bandwidth | <ul style="list-style-type: none"> – 1 GHz bandwidth |
| Target speed simulation | <ul style="list-style-type: none"> – Doppler simulation Speed range ± 360 km/h in 0.1 km/h step |
| Transmit/Receive gain control | <ul style="list-style-type: none"> – 63.5 dB |
| Physical | |
| Chassis | <ul style="list-style-type: none"> – Standard EIA 5 RU height |
| Dimensions in mm | <ul style="list-style-type: none"> – 425 (W) 216 (H) 571 (D) |
| Software | |
| Embedded operating system | <ul style="list-style-type: none"> – Windows 7 Professional 64-bit |
| Included hardware drivers | <ul style="list-style-type: none"> – No driver is required, GUI is provided |
| Programming interface | <ul style="list-style-type: none"> – API |

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