# Radar Target Simulator Data Sheet AXRT Series

# 76 GHz to 81 GHz

## Product Description


***AXRT-7702T2, 2 GHz Instantaneous Bandwidth with Fixed Target Distance***

Raytech's AXRT series **Automotive Radar Target Simulator** (ARTS) is designed to cover 76 – 81 GHz, providing realistic moving targets at fixed or continuous distances with a target speed variation from –360 km/h to +360 km/h range. Raytech's AXRT series employs analog delay lines to enhance 5 GHz instantaneous bandwidth covering 4 - 300 m target distances in 256 steps. Furthermore, the target distance step resolution for far- & short-range can be reconfigured upon the customer's request as shown in Table 1. Raytech employs an 8 bit (256 step) switch matrix to realize continuous target range as the standard model but the resolution can be increased up to 12 bits upon request.


***AXRT-8005C0, 5 GHz Instantaneous Bandwidth with continuous Target Distance***

Customer can measure the average power and occupied bandwidth through IF port (SMA) on the real panel or Raytech can add signal analyzer in the same box upon request.

Raytech's AXRT series is the most cost effective but robust target simulator, specially developed for volume production line.

Tabel 1 Target distance setup example

| | Target Distance Range |
|---|---|
| Case 1 (Default) | 4 — 299.8 m, 1.16 m step |
| Case 2 | 4—131.5 m, 0.5 m step |
| Case 3 | 4—1024 m, 2m step |

| SPECIFICATION | | |
|---|---|---|
| **MODEL** | **AXRT-8005C0** | **AXRT-7702T2** |
| **RF Range** | | |
| Instantaneous Bandwidth | 76 to 81 GHz | 76 - 78 GHz |
| **Input Power** | | |
| Max. input power (at RF flange) | 0 dBm | 0 dBm |
| Min. input power (at RF flange) | -65 dBm | -65 dBm |
| Recommended input power (at RF flange) | -20 dBm | -20 dBm |
| **Target Distance Simulation** | | |
| Min. physical distance, RTS to DUT | 1 m | Switch between Fixed Two Target (30 m / 170 m, for example) |
| Min. simulated target distance | 4 m | |
| Max. simulated target distance | 299.8 m | |
| Distance simulation resolution | 1.16 m | |
| Distance simulation accuracy | + / - 0.3 m | + / - 0.3 m |
| **Radar Cross Section Simulation (RCS) and Other RF Performance Specifications** | | |
| RCS Adjustment Range | 50 dB, 1 dB steps | 50 dB, 1 dB steps |
| Spurious Emission | 40 dBc | 40 dBc |
| Phase Noise | -90 dBc/Hz @10 kHz | -90 dBc/Hz @ 10 kHz |
| **Target Speed Simulation** | | |
| Doppler simulation range | - 360 km/h to 360 km/h | - 360 km/h to 360 km/h |
| Doppler simulation resolution | 0.1 km/h | 0.1 km/h |
| Doppler simulation accuracy | + / - 0.05 km/h | + / - 0.05 km/h |
| **Additional Features** | | |
| IF port (SMA) for frequency analysis | | |
| (Optional) Built-in Occupied Bandwidth and Average Power Measurement, Model Number: | **AXRT-8005CS** | AXRT-7702T2S |
| Alignment laser | | |

Note: Raytech Inc. reserves the right to change the information presented without notice.