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Microwave Factory Company

RTS **RADAR TARGET SIMULATOR**

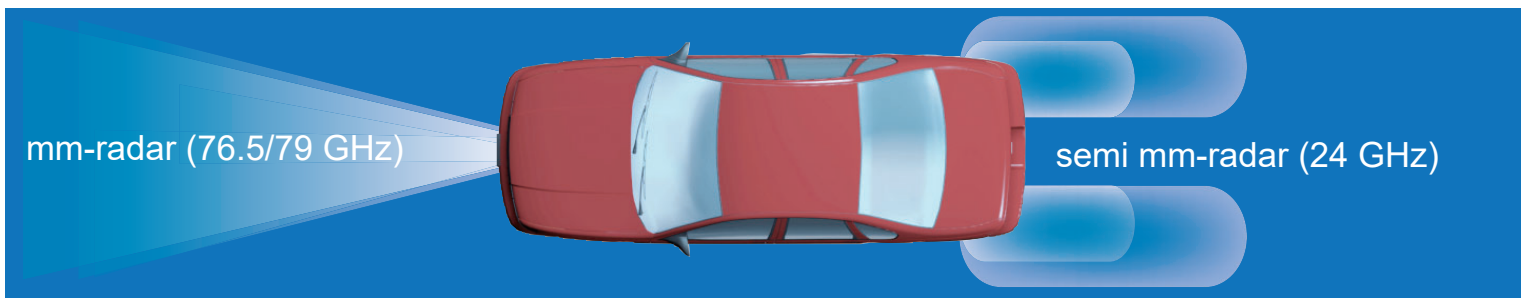


**Millimeter Wave Collision
Avoidance Radar Simulator**

RTS Simulates Velocity and Positioning of Moving Vehicles

Dual Frequency Band

76.5GHz (1GHz BW) and 79GHz (4GHz BW)

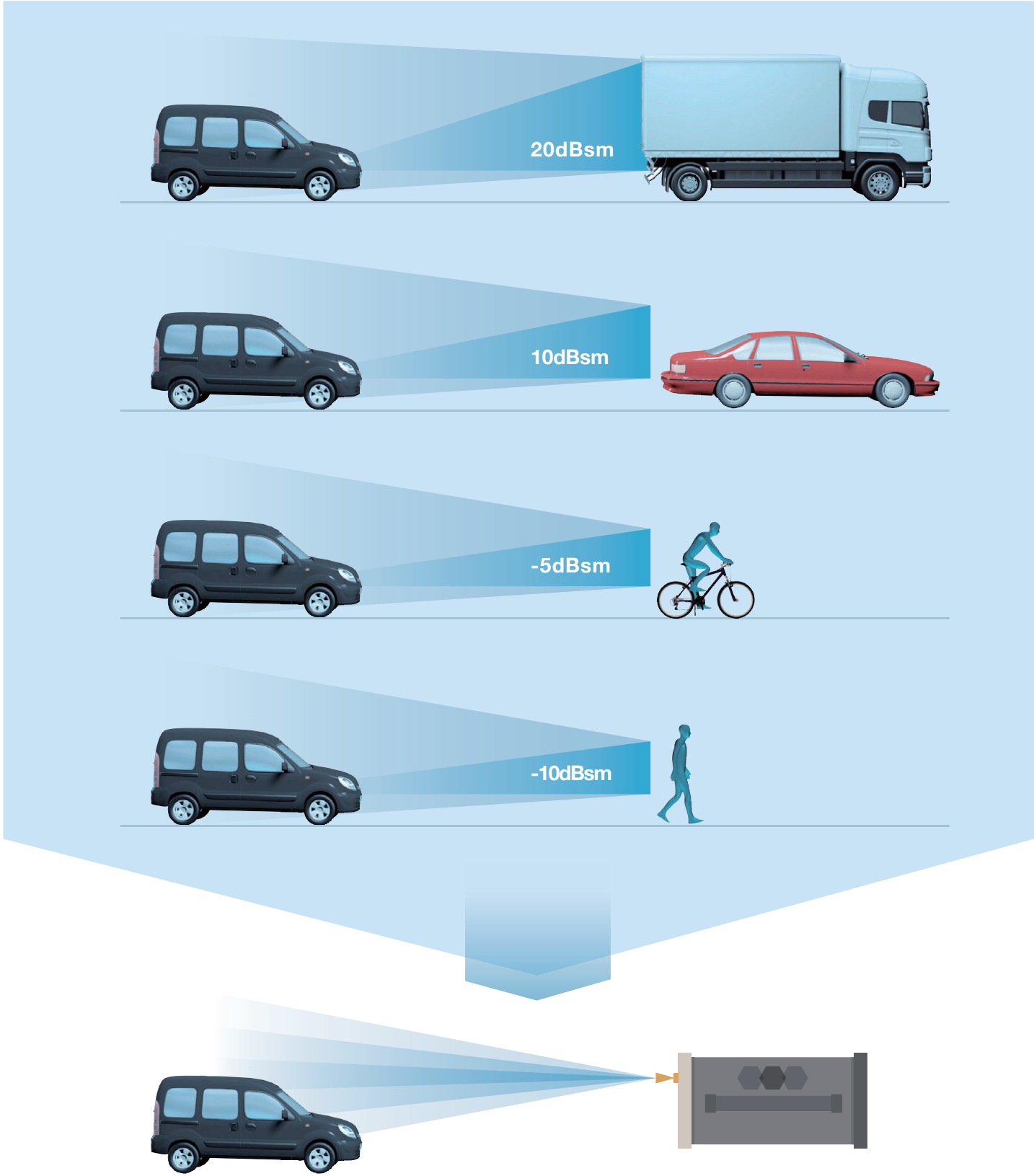


- ***Economical Characterization of Autonomous Vehicle Radar***
- ***Characterize Field Performance in a Lab Environment***
- ***Dual Frequency Band: 76.5 GHz (1 GHz BW) and 79 GHz (4 GHz BW)***
- ***Longest Range Simulation: 350m***



Radar Cross Section

Simulate Different RCS Targets



RTS



Relative Velocity

Controllable Relative Velocity: Doppler +/- 1000km/h with 0.1km/hr Step Size



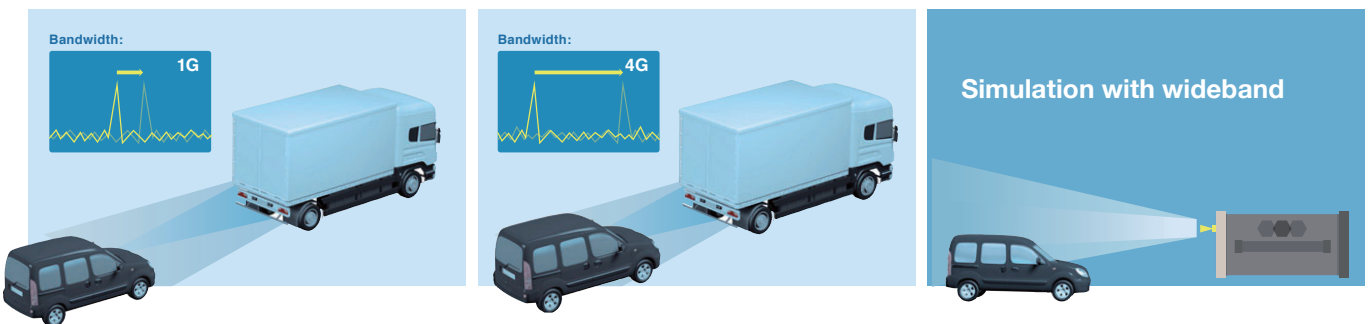
Distance

Controllable Measurement Distance from 5 to 350m with a 0.1 Step Size



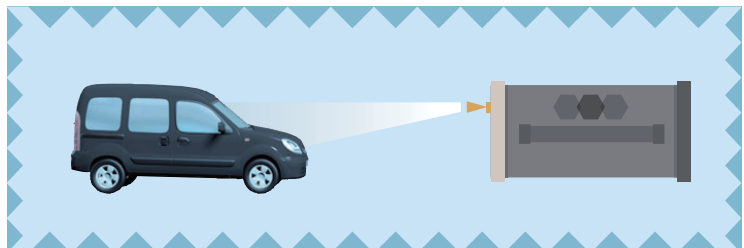
Bandwidth

The Wideband Analog Delay Line Enables the Simulation of Close-in Targets



Environment

Enables the Testing and Validation of Critical Performance in a Safe Lab Environment



Specification

Model	MRT7681-03	MRT7681-4
Frequency Range	76~77 GHz (1 GHz BW)	
	77~81 GHz (4 GHz)	
Method of Continuous Wave	FM-CW	
Target Moving Speed	-1000 ~ +1000 km/h	
Speed Step	0.1 km/h	
Delay Range	3.0 ~ 350 m (0.1 m step)	1.5 ~ 30m (0.1 m step)
Delay Accuracy	$\cong \pm 0.1$ m	
RF Port / Interface	WR12 / UG387Umod (IN/OUT)	
Normal Level at RF Port	-30 dBm	
Operation Temperature	+10 ~ +40 °C	
Operation Humidity	RH35 ~ 85 %	
Storage Temperature	-20 ~ +60°C	
Power Supply	AC100 - 240 V 50/60 Hz	
Dimension (W x H x D)	430 x 230 x 480 (mm)	
Weight	$\cong 25$ kg	

Millimeter Wave Collision Avoidance Radar Simulator

The Microwave Factory Radar Target Simulator MRT7681 series enables evaluation of the performance of millimeter wave radar systems by capturing, modifying, and retransmitting radar signals back to the radar under test. The Relative Velocity of the vehicle in front is generated by adjusting the doppler shift of the received signal. The distance to the vehicle in front is generated by adjusting the signal level and delay of the received signal using optical and coax cable delay lines.



RTS

CORNES Technologies USA

www.cornestech.com

info@cornestech.com

780 Montague Expy. St 506

San Jose, CA 95131

+1(408)520-4550