

Howland Wireless Test Labs  
Specification Comparison

Specification	Model 2100D	Model 3100	Model 3500D	Model 4100	Model 4800
Frequency Range (MHz)	700-10000	700-10000	700-10000	400-10000	400-10000
Dimensions L x W x H	90 x 80 x 94 in <sup>7</sup> 229x203x239 cm	122x122x116 in 310x310x295 cm	165x153x138in <sup>7</sup> 419x389x351 cm	192x192x166 in 486x486x422 cm	192x192x190 in 486x486x482 cm
Ceiling Height Requirement Recommended Minimum <sup>6</sup>	108 in (275 cm) 96 in (244 cm)	135 in (343 cm) 118 in (300 cm)	153 in (389 cm) 138in (351 cm)	185 in(470 cm) 168in(427 cm)	209 in(531 cm) 192 in (488 cm)
Maximum Range Length <sup>1</sup>	26 in (66 cm)	49 in (124.5 cm)	58 in (148 cm)	63.5 in (161cm)	75.5 in (192 cm)
Standard Test Zone <sup>5</sup> Diameter Ripple <sup>2</sup> (Typical) Uncertainty <sup>3</sup> (Typical)	12in (30cm) < ± 2 dB < 0.5 dB	12in (30cm) < ± 1.5 dB < 0.35 dB	12in (30cm) < ± 1.5 dB < 0.35 dB	12in (30cm) < ± 1.5 dB < 0.35 dB	12in (30cm) < ± 1.5 dB < 0.35 dB
Extended Test Zone <sup>5</sup> Diameter Ripple <sup>2</sup> (Typical) Uncertainty <sup>3</sup> (Typical)	NA	NA	20in (50cm) < ± 2 dB < 0.45 dB	20in (50cm) < ± 2 dB < 0.45 dB	20in (50cm) < ± 2 dB < 0.45 dB
CTIA Test Plan Compliant <sup>4</sup>	No	Yes	Yes	Yes	Yes
Shielding Isolation (Std/Opt)	70dB/90dB	70dB/90dB	70dB/90dB	70dB/90dB	70dB/90dB
MIMO Test Capable	Yes	Yes	Yes	Yes	Yes
Maximum DUT Weight (Standard)	35 lbs 16 kg	35 lbs 16 kg	35 lbs 16 kg	35 lbs 16 kg	35 lbs 16 kg
Maximum DUT Weight (Optional)	Contact Us	500 lbs 227 kg	500 lbs 227 kg	500 lbs 227 kg	500 lbs 227 kg

1. Distance from the center of the test zone to the mounting surface of the probe antenna. Measurement range length is the maximum range length less the distance from the probe mounting surface to the phase center of the probe antenna.
2. Measured per the CTIA Test Plan for Mobile Station OTA Performance
3. Calculated per the CTIA Test Plan for Mobile Station OTA Performance
4. v3.1 of the CTIA Test Plan for Mobile Station OTA performance
5. Consult factory for larger test zone sizes
6. Requires modifications to chamber. Consult factory
7. Consult factory for smaller footprint.