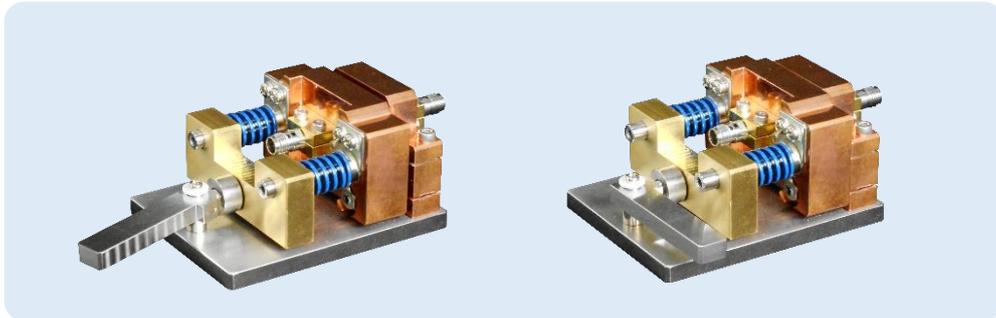


# Split cylinder resonator for permittivity measurement

## Easy to use mm wave low loss dielectric test

- Ideal for evaluating low loss dielectric materials with  $\tan \delta$  0.01 or less
- Easy and reproducible dielectric material measurement in millimeter wave band with excellent fixture design
- Resonator design optimization extends the upper limit frequency to 80 GHz



The millimeter wave material market is changing drastically by 5G and automotive radar. A measurement system that can evaluate leading edge materials accurately is needed to succeed in the market.

The 80 GHz split-cylinder resonator responds to this market demand and provides easy-to-use and accurate dielectric material measurements. Our split cylinder has been very well established up to 50 GHz, and the resonator design has been optimized according to the latest machining technology to extend the upper frequency towards 80 GHz. As a result, it has become possible to accurately and easily measure low loss dielectric materials in a wide frequency range from 10 GHz to 80 GHz using a flat plate sample.

### System Configuration Example

- Keysight Streamline Series USB Network Analyzer P5007A (44 GHz)
- Permittivity measurement software for split cylinder CR-MA
- 2.92 mm test cables
- Split Cylinder Resonator 40 GHz CR-740
- Windows PC

**\* Split Cylinder Resonators are available from Keysight Technologies**

### Product Line-up

Model	Description	Res Mode	Q factor	Connectors
CR-710	Split Cylinder Resonator 10 GHz	TE011	>20,000	2.92 mm (f)
CR-720	Split Cylinder Resonator 20 GHz		>14,000	
CR-724	Split Cylinder Resonator 24 GHz			
CR-728	Split Cylinder Resonator 28 GHz			
CR-735	Split Cylinder Resonator 35 GHz			
CR-740	Split Cylinder Resonator 40 GHz		>7,000	2.4 mm (f)
CR-750	Split Cylinder Resonator 50 GHz		>6,000	1.85 mm (f)
CR-760	Split Cylinder Resonator 60 GHz			1 mm (f)
CR-780	Split Cylinder Resonator 80 GHz			