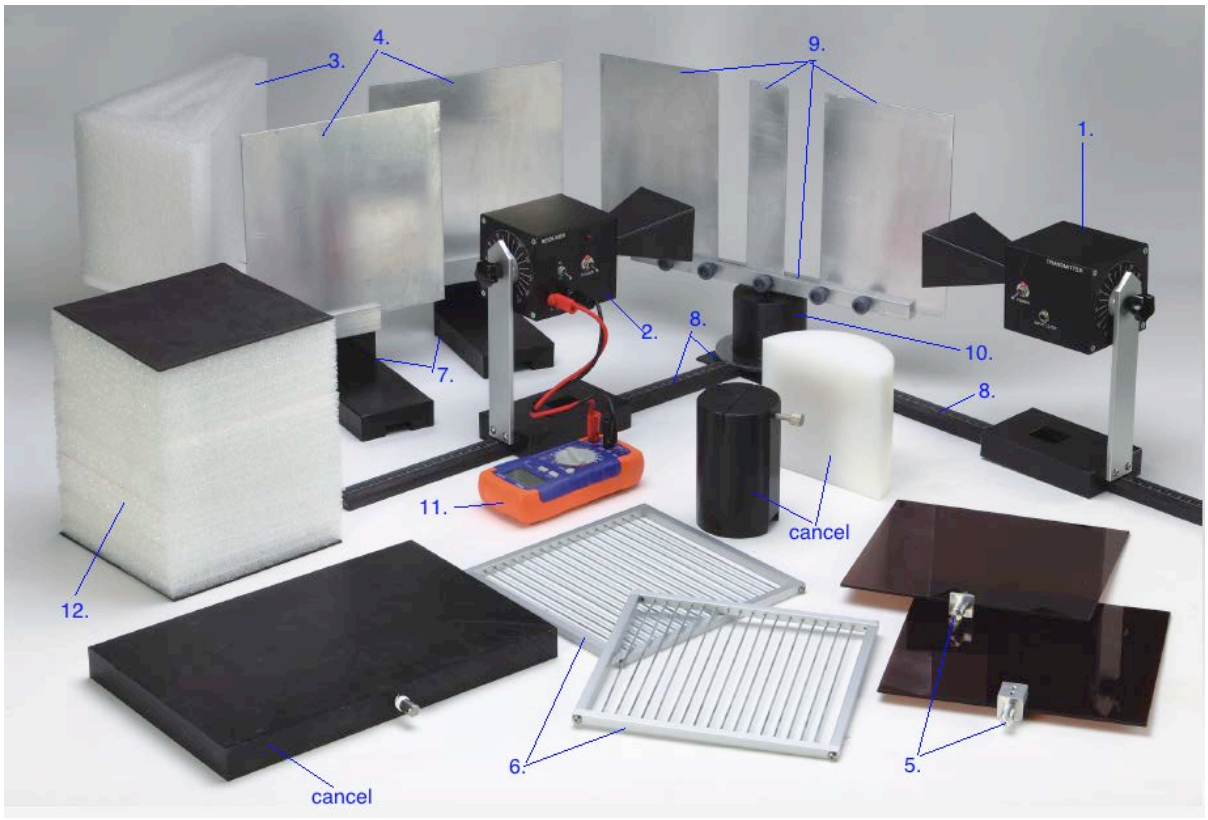
F20 Microwave Optics



F20 Microwave Optics

Experiments:

1.Geometric optics reflection, refraction and standing wave.

2.Interference diffraction, double-slit interference, Michelson interference, Fabry-Perot interference, Lloyd's mirror

3.Polarization Brewster's angle, light polarized experiment.

4.Bragg diffraction

5.Fiber optics

Specification:

microwave transmitter x1:

1. Fixed frequency oscillator, operating frequency 10.525GHz, output power 10mW(Min.) , typ.frequency drift/temperature 350 KHz/°C, Typ. Operating voltage 8.5VDC, Max. operating current 200mA, 12VDC input , r rotary iron made micro corner antenna, size 90x75x55mm ,rotary style, mobile rack.
2. microwave receiver x1:
   Waveguide detector, center frequency 10.525GHz, minimum detectable signal -45 dBm, RF bandwidth 300MHz, rotary iron made micro corner antenna, size 90x75x55mm ,rotary style, mobile rack. adjustable knob for signal strength, signal output terminal embedded with 9V battery x2.
3. polystyrene prism model x1: Vertical triangle model, 90-60-30 degree with dimension of 23x15x16cm , might be built in various refractive index of material for related experimental.
4. reflective metallic plate x2: aluminum , 20x20x0.2 cm of size.
5. semipermeable plate x2: acrylic, 20x20x0.3 cm of size.
6. Aluminum polarizing gate x2: 20x20x0.8cm of size, each inserted with 17 thin aluminum strips ,multi- measurement capacity for phase angle 0-45-90 degree.
7. The tablet holder x2
8. Double rail of aluminum x1 : dimension 113cm x 2.5cm ,thick 1cm, attached with a meterstick and an angle gauge of 30 ~ 330 degrees allowed.
9. Slit sheet for interference and diffraction:
10. Aluminum strip x2 (the dimension of 13x20x0.2cm), aluminum strip x1(the dimension of 4x20x0.2cm), and holder x1 (flexible slit rack with a slot of 30x1.5x1.5 cm).
11. 10. The adjust-angle bracket: PE material, enclosed herewith a transparent dial disc.
    11. Multimeter x1
12. Bragg diffraction experiment (optional) x1:
13. Polystyrene box of size 17x17x20cm, containing three-dimensional array of 5x5x5 ball pieces