Reference	Component	Description
U1	ESP32-S3-WROOM-1	Microcontroller module
U2	BME280	Temperature, humidity, and pressure sensor
U3	MLX90614	Infrared temperature sensor
U4	TP541220BKT	Power management IC
U5	DHT11	Temperature and humidity sensor
U6	MQ135	Gas sensor
U7	DM-LCD1602-616	LCD display module
U8	DPDT-RELAY	Double-pole double-throw relay
U9	DS3231	Real-time clock (RTC) module
L1	TPA4056	Battery charging IC
IC1	SPB-SDVC4-SL-C	Solar charge controller
IC2A	Unknown	Needs verification
BT1	Battery	Power supply
BT2	Battery	Power supply
KL	Solar Panel	Renewable power source