No.	Component	Specification / Model	#	Qty (Total)	Purpose
1	Microcontroller	ESP32 Dev Module		2	Main controller for transmitter & receiver
2	LoRa Module	AI Thinker SX1278 (433 MHz)		2	Long-range wireless communication
3	Antenna	433 MHz High-Gain (5–8 dBi, SMA)		2	Extended transmission range
4	Display	2.8" TFT LCD (SPI, ILI9341)		2	Status, ACK, alerts, messages
5	Matrix Keypad	4×4 Matrix Keypad		1	Emergency & service code input
6	Power Management	TP4056 (with protection)		2	Li-ion battery charging
7	Battery	18650 Li-ion (2600–3400 mAh)		2	Portable power supply
8	Solar Panel	5–6 V, 1–3 W		2	Off-grid charging (rural/mountain use)
9	Green LED	5 mm LED + resistor		2	ACK / successful transmission indicator
10	Red LED	5 mm LED + resistor		2	Failure / retry indicator
11	Buzzer	Active Buzzer (3–5 V)		2	Audible emergency alert
12	Push Buttons	Emergency / Reset buttons		3	Manual emergency & reset control
13	Storage	ESP32 Internal Flash	Built-in		Location, device ID, logs
14	RF Connector	SMA Connector + RF Cable		2	Antenna connection
15	Power Switch	Slide / Toggle Switch		2	Power ON/OFF
16	PCB / Perfboard	Custom / General		2	Circuit mounting
17	Wiring	Jumper wires set		2	Interconnections
18	Enclosure	IP65 Waterproof Box		2	Weather protection (Himalayan use)