NOTE:

The Drone, Base-station and Hardcase should substantially confirm to the specification and packaging details.

All Equipment purchased should come with min 1 year manufacturer or suppliers warranty.

Specification for DJI Phantom 4 RTK Drone (Or equivalent)

Note: (the combo should confirm to the packaging details in the last page)

AIRCRAFT

Takeoff Weight	1391 g
Diagonal Distance	350 mm
Max Service Ceiling Above Sea Level	19685 ft (6000 m)
Max Ascent Speed	6 m/s (automatic flight); 5 m/s (manual control)
Max Descent Speed	3 m/s
Max Speed	31 mph (50 kph)(P-mode) 36 mph (58 kph)(A-mode)
Max Filght Time	Approx. 30 minutes
Operating Temperature Range	32° to 104° F (0° to 40℃)
Operating Frequency	2.400 GHz to 2.483 GHz (Europe, Japan, Korea) 5.725 GHz to 5.850 GHz (United States, China)
Transmission Power (EIRP)	2.4 GHz CECE (Europe) / MIC (Japan) / KCC (Korea) ：< 20 dBm 5.8 GHz SRRC（China） / FCC（United States）/(Taiwan,China)：< 26 dBm
Hover Accuracy Range	RTK enabled and functioning properly： Vertical：±0.1 m；Horizontal：±0.1 m RTK disabled Vertical：±0.1 m（with vision positioning） ； ±0.5 m（with GNSS positioning） Horizontal：±0.3 m（with vision positioning）； ±1.5 m（with GNSS positioning）
Image Position Offset	The position of the camera center is relative to the phase center of the onboard D-RTK antenna under the aircraft body's axis:(36, 0, and 192 mm) already applied to the image

	coordinates in Exif data. The positive x, y, and z axes of the aircraft body point to the forward, rightward, and downward of the aircraft, respectively.

MAPPING FUNCTIONS

**Mapping Accuracy ** **	Mapping accuracy meets the requirements of the ASPRS Accuracy Standards for Digital Orthophotos Class Ⅲ ** The actual accuracy depends on surrounding lighting and patterns, aircraft altitude, mapping software used, and other factors when shooting.
Ground Sample Distance(GSD)	(H/36.5) cm/pixel, H means the aircraft altitude relative to shooting scene (unit: m)
Data Acquisition Efficiency	Max operating area of approx. 1 km² for a single flight(at an altitude of 182 m, i.e., GSD is approx. 5 cm/pixel, meeting the requirements of the ASPRS Accuracy Standards for Digital Orthophotos Class Ⅲ

VISION SYSTEM

Velocity Range	≤31 mph(50 kph) at 6.6 ft(2 m) above ground with adequate lighting
Altitude Range	0-33 ft(0 - 10 m)
Operating Range	0-33 ft(0 - 10 m)
Obstacle Sensing Range	2-98 ft(0.7-30 m)
FOV	Forward/Rear: 60° (horizontal), ±27° (vertical) Downward: 70° (front and rear), 50° (left and right)
Measuring Frequency	Forward/Rear：10 Hz; Downward： 20 Hz
Operating Environment	Surfaces with clear patterns and adequate lighting(＞ 15 lux)

CAMERA

Sensor	1" CMOS; Effective pixels: 20M
Lens	FOV 84°；8.8 mm / 24 mm(35 mm format equivalent:24 mm)； f/2.8 - f/11, auto focus at 1 m - ∞
ISO Range	Video:100-3200(Auto) 100-6400(Manual)； Photo:100-3200(Auto) 100-12800(Manual)
Mechanical Shutter Speed	8 - 1/2000 s
Electronic Shutter Speed	8 - 1/8000 s
Max Image Size	4864×3648（4:3）； 5472×3648（3:2）

Video Recording Modes	H.264，4K：3840×2160 30p
Photo Format	JPEG
Video Format	MOV
Supported File Systems	FAT32（≤ 32 GB）； exFAT（> 32 GB）
Supported SD Cards	MicroSD, Max Capacity: 128 GB. Class 10 or UHS-1 rating required Write speed≥15 MB/s
Operating Temperature Range	32° to 104° F （0° to 40℃）

INTELLIGENT FLIGHT BATTERY(PH4-5870MAH-15.2V)

Capacity	5870mAh
Voltage	15.2V
Battery Type	LiPo 4S
Energy	89.2 Wh
Net Weight	468 g
Charging Temperature Range	14° to 104℉(-10° to 40℃)
Max charging Power	160W
Capacity	4920mAh
Voltage	7.6V
Battery Type	LiPo 2S
Energy	37.39Wh
Operating Temperature	-4° to 104℉(-20° to 40℃)

INTELLIGENT BATTERY CHARING HUB(WCH2)

Input Voltage	17.3 - 26.2 V
Output Voltage and Current	8.7 V，6 A；5 V，2 A
Operating Temperature	41° to 104℉(5° to 40℃)

GNSS

Single-Frequency, High-Sensitivity GNSS Module	GPS+BeiDou+Galileo*（Asia）； GPS+GLONASS+Galileo*（other regions） Frequency Used： GPS：L1/L2； GLONASS：L1/L2； BeiDou：B1/B2； Galileo*：E1/E5a First-Fixed Time：< 50 s Positioning Accuracy: Vertical 1.5 cm + 1 ppm（RMS）； Horizontal 1 cm + 1 ppm（RMS） 1 ppm means the error has a 1mm increase for every 1 km of movement from the aircraft. *Available soon

GIMBAL

Stabilization	3-axis (tilt, roll, yaw)
Pitch	-90° to +30°
Max Controllable Angular Speed	90°/s
Angular Vibration Range	±0.02°

INFRARED

Obstacle Sensing Range	0.6-23 ft(0.2 - 7 m)
FOV	70°(Horizontal) ±10°(Vertical)
Measuring Frequency	10 Hz
Operating Environment	Surface with diffuse reflection material, and reflectivity＞ 8%（such as wall,trees, humans, etc.)

REMOTE CONTROLLER

Operating Frequency	2.400 GHz-2.483 GHz(Europe,Japan,Korea) 5.725 GHz-5.850 GHz(United States, China)
Transmission Power (EIRP)	2.4 GHz CE / MIC / KCC：< 20 dBm

	5.8 GHz SRRC / FCC：< 26 dBm
Max Transmission Distance	FCC：4.3 mi(7 km)； SRRC / CE / MIC / KCC：3.1 mi(5 km) (Unobstrcted, free of interference)
Power Consumption	16 W(typical value)
Display	5.5 inch screen, 1920×1080, 1000 cd/m², Android System Memory 4G RAM+16G ROM
Operating Temperature Range	32° to 104° F （0° to 40℃）

INTELLIGENT FLIGHT BATTERY CHARGING HUB(PHANTOM 4 CHARING HUB)

Voltage	17.5 V
Operating Temperature Range	41° to 104℉(5° to 40℃)
Capacity	4920mAh
Voltage	7.6V
Battery Type	LiPo 2S
Energy	37.39Wh
Operating Temperature	-4° to 104℉(-20° to 40℃)

AC POWER ADAPTER(PH4C160)

Voltage	17.4V
Rated Power	160W

Specification for DRTK 2 (or equivalent) Mobile Base-Station

Note: (the combo should confirm to the packaging details in the last page)

GNSS RECEVIER

GNSS Frequency	Simultaneously receive： GPS: L1 C/A, L2, L5 BEIDOU: B1, B2, B3 GLONASS: F1, F2 Galileo: E1, E5A, E5B
Positioning Accuracy	Single Point Horizontal：1.5 m(RMS) Vertical：3.0 m(RMS) RTK Horizontal：1 cm+ 1 ppm(RMS) Vertical：2 cm+ 1 ppm(RMS) 1 ppm: For every 1 km increase in distance, the accuracy will be 1 mm less. For example, the horizontal accuracy is 1.1 cm when the receiving end is 1 km away from the base station.
Positioning Update Rate	1 Hz, 2 Hz, 5 Hz, 10 Hz and 20 Hz
Cold Start	＜45 s
Hot Start	＜10 s
Recapture Time	＜1 s
Initialization Reliability	＞99.9%
Differential Data Format	RTCM 2.X/3.X

IMU

Features	Built-in high-precision 6-axis accelerometer D-RTK 2 movement monitoring Sloping measurements Electronic bubble level

PHYSICAL CHARACTERISTICS

Dimensions(D-RTK 2 body with extension rod)	68 mm×168 mm×1708 mm

IP Rating	IP67

COMMUNICATION AND DATA STORAGE

Data Link	OcuSync, Wi-Fi, LAN, 4G
Operating Frequency	2.400 GHz to 2.483 GHz (China, United States, Australia, Europe, Japan, Korea) 5.725 GHz to 5.850 GHz (China, United States, Australia)
EIRP	OcuSync 2.4 GHz SRRC (Mainland China) / CE (Europe) / MIC (Japan) / KCC (Korea): < 20 dBm FCC (United States, Australia) / NCC (Taiwan, China): < 26 dBm 5.8 GHz FCC (United States, Australia) / SRRC (Mainland China) / NCC (Taiwan, China): < 26 dBm Wi-Fi 2.4 GHz SRRC (Mainland China) / CE (Europe) / MIC (Japan) / KCC (Korea): < 20 dBm FCC (United States, Australia) / NCC (Taiwan, China): < 22 dBm 5.8 GHz FCC (United States, Australia) / SRRC (Mainland China) / NCC (Taiwan, China): < 22 dBm
Communication Distance	OcuSync: 2 km (unobstructed and free of interference, when the distance from the D-RTK 2 antenna to the bottom of the tripod is 1.8 m, when the difference in height between the remote controller and D-RTK 2 is less than 2 m, and when the remote controller is 1.2 m from ground level)
Memory Capacity	16 GB

ELECTRICAL CHARACTERISTICS

Power Consumption	12 W
Power Supply	16.5 to 58.8VDC
Battery	Type：Lithium-ion battery Capacity: 4920 mAh Energy: 37.3 WH
Run Time	WB37 battery：＞2 h MG-12000P battery：＞50 h

OPERATING TEMPERATURE

Operating Temperature	32° to 113° F (0° to 45° C)

Specifications for Hard-shell wheel case for P4 RTK and Ground Station

Go Professional Cases Hard-Shell Wheeled Case for DJI Phantom 4 RTK and Ground Station (or equivalent)

- Holds RTK Drone + Ground Station
- Room for Remote, Batteries & accessories
- Durable Exterior
- Slide-Out Pull Handle & Built-In Wheels

Carry/Transport Options	Side Handles, Telescoping Pull Handle, Wheels

Packing Details:

Packaging Should Include:

RTK Drone

- Aircraft Body x1
- Remote Controller with Screen x1
- Propeller Pair x4
- Intelligent Flight Battery x2 (note that 4 more batteries are to be supplied separately as in prize schedule)
- AC Power Cord x1
- Remote Controller Intelligent Battery (wb37) x1
- AC Power Adapter x1
- Intelligent Battery Charging Hub (wb37) x1
- Intelligent Flight Battery Charging Hub x1
- Gimbal Clamp x1
- MicroSD Card (16gb) x1
- Carrying Case x1
- Micro USB Cable x1

Mobile Base-Station

- D-RTK 2 Body x1
- Extension Rod x1
- Mobile Phone Holder x1
- Charging Hub (wb37) x1
- Intelligent Battery (wb37) x2
- Battery Cover x1
- AC Power Adapter x1
- AC Power Cable x1
- MG Power Cable x2
- LAN Cable x1
- USB-C Cable x1
- USB-C OTG x1
- Hex Key x1
- Battery Strap x1
- Clasp x1
- MG-12000P XT90 Shorting Plug x1
- Tripod