

CoreHand-HF (Android 9.0) SERIES HAND-HELD TERMINAL PRODUCT SPECIFICATION V0.1



1. CoreHand (ANDROID 9.0) PERFORMANCE CHARACTERISTICS

CPU	Cortex™-A53 Octa-core 1.8GHz
Operating System	Android 9.0 (GMS Certified)
RAM	3GB
ROM	16GB
Expansion Slot	Micro SD Card, 32GB SDHC compatible
Interface/Communication	Industrial Micro USB interface supports USB2.0 High Speed, supports OTG, USB supports serial port.
Keypad	17keys/22 crystal keys
	LED(buttons with backlight)
Display	4.0 inch size industrial grade low temperature resistant, Capacitive, touchable, dual mode touch-with or without a thick glove / with or without wet hand
	800(H)×480(W) (WVGA)
Power	Detachable 3.8V 4000mAh rechargeable Li-ion battery, (Built 3.7V 60mAh in li-ion backup battery and voltmeter)
	Side interface: Standard Micro USB, support quick charge, intelligent identification of PC and special charger; Bottom flap charging interface: Support quick charge, USB data transmission intelligent identification of PC and special charger
Notification	Sound, Vibrator, LED indicator
Audio	Built-in dual loudspeaker 8Ω/0.8W*2 or built-in single loudspeaker4Ω/2W, built-in microphone, 3.5mm stereo headset interface.
Sensor	Acceleration sensor, Electronic compass, Optical sensor and gyroscope
Dimension	156(H)×70(W)×22(T)mm , (it's 27mm for the scanner part)
Weight(including standard battery)	270g (battery included, varies by different configurations)
Operating Temp	-20°C to +50°C
Storage Temp	-40°C to + 60°C (Battery included)
	-40°C to + 70°C (Battery excluded)
Humidity	5% to 95% RH non-condensing
Sealing	IP67
Drop Specification	Multiple 1.5m drops to concrete across the operating temperature range
Tumble Specification	1,000 1.64 ft./0.5 m tumbles (2,000 impacts)
ESD	±15kV Air discharge,±8kV direct discharge

2. CoreHand (ANDROID 9.0) DATA CAPTURE OPTIONS

Option 1	1D Laser Scan Engine (option1)
Scan Accuracy	5mil
Rotate	±35°
Pitch Angle	±65°
Skew Tolerance	±50°
Ambient Light	Sunlight: 10,000ft. Candles(107,640Lux)

	Artificial light:450ft.candles(4,844Lux)
Scan Frequency	100±10/sec
Scan Width	47°
Laser safety grade	Class II
Code Support	UPC/EAN, POST, Code 128, Code 39, Code 93,Code 11, Codabar, Interleaved 2 of 5, Discrete 2 of 5, Chinese 2 of 5, MSI, RSSI etc.
Option 2	1D Laser Scan Engine (option2)
Scan Accuracy	5mil
Rotate	±35°
Pitch Angle	±65°
Skew Tolerance	±50°
Ambient Light Immunity	Sunlight: 10,000ft. Candles(107,640Lux)
	Artificial light: 450ft. Candles(4,844Lux)
Scan Depth	17.78cm(5mil),66.04cm(15mil)
Scan Frequency	104±12/sec
Scan Width	47°/35°/10°
Laser safety grade	Class I
Code Support	UPC/EAN, POST, Code 128, Code 39, Code 93, Code 11, Codabar, Interleaved 2 of 5, Discrete 2 of 5, Chinese 2 of 5, MSI, RSSI etc
Option 3	2D Image Scan Engine (option 3)
Sensor Resolution	844(H)×640(V)
Rotate	360°
Pitch Angle	±45°
Skew Tolerance	±65°
Laser safety grade	Class II
Image frame rate	60fps
Code Support	Aztec Code, Codabar, Codablock F, Code 11, Code 128, Code 2 of 5, Code 39, Code 93, Data Matrix, EAN/JAN-13, EAN/JAN 8, EAN-UCC Composite Codes, EAN-UCC Emulation, IATA Code 2 of 5, Interleaved 2 of 5, Matrix 2 of 5, MaxiCode, MicroPDF417, MSI, PDF417,Postal Codes (Australian Post,British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnet), Plessey Code, PosiCode, QR Code, RSS Expanded, RSS Limited, RSS-14, TCIF Linked Code 39, Telepen, Trioptic Code, UPC-A, UPC-E etc.
Light source system	White light, laser aiming
Minimum printing contrast	20%
Option 4	2D Image Scan Engine (option 4)
Sensor Resolution	1280(H)×800(V)
Rotate	360°
Pitch Angle	±60°
Skew Tolerance	±55°

Laser safety grade	Class II
Image frame rate	60fps
Scan depth	Code128: 25.5cm(7mil),52.5cm(20mil) QR code: 10cm(10mil),34cm(20mil)
Code support	UPC/EAN, UPC/EAN , Code128, GS1-128, Code 39, Code 32, Code 93, Code11, Matrix 2 of 5, Interleaved 2 of 5, IATA 2 of 5, Industrial2 of 5,Codabar, MSI,Code11,PDF417, MicroPDF417,Data Matrix, Maxicode, QR Code, MicroQR, Aztec etc.
Light source system	White light, Red cross-shape laser aiming
Minimum printing contrast	20%
Option 5	2D Image Scan Engine (option 5)
Sensor Resolution	1280(H)x800(V)
Rotate	360°
Pitch Angle	±60°
Skew Tolerance	±55°
Laser safety grade	Class II
Image frame rate	60fps
Scan depth	Code128: 10cm(5mil),80cm(20mil)
Code support	UPC/EAN, UPC/EAN , Code128, GS1-128, Code 39, Code 32, Code 93, Code11, Matrix 2 of 5, Interleaved 2 of 5, IATA 2 of 5, Industrial2 of 5,Codabar, MSI ,Code11 etc. PDF417, MicroPDF417, Data Matrix, Maxicode, QR Code, MicroQR, Aztec, etc.
Light source system	White light, Red cross-shape laser aiming
Minimum printing contrast	20%
Option 6	GPS
Positioning system	GPS, Beidou, GLONASS(Three in one)
Frequency	GPS: L1(1.575GHz); Beidou: B1(1.561GHz); GLONASS:L1(1.602GHZ)
Maximum number of channels	31channels
Sensitivity	-130dB(SNR value as 40dBHz)
Accuracy	5-10meter(OPEN SKY)
Option 7	Camera
Maximum Resolution	3264*2448(taking photo), 720P 30fps (making video)
Photo Function	Auto-focus
Flashlight	Support dual flashlights
Pixel	8 mega
Option 8	RFID Read/write(HF)
Standards Support	Support ISO15693,ISO14443A/B(without encryption protocol), ISO14443A tag with encryption protocol(Mifare one S50,S70 and its compatible cards); Support NFC protocol

Operating Frequency	HF frequency band 13.56MHz
Reading Range	Typical values bigger than 6cm for ISO15693, Typical values bigger than 4cm for ISO14443A , and Typical values bigger than 1cm for ISO14443B varies by different tags.
Resolution	508DPI

3. CoreHand (ANDROID 9.0) WIRELESS DATA COMMUNICATIONS

Option 1	WLAN WIFI
Protocol	IEEE 802.11a/b/g/n/ac(2.4G/5G dual-frequency WIFI)
Frequency Range	Depends on different countries (regions), 2.4GHz: 2.4GHz-2.496GHz; 5GHz: 5.15GHz-5.85GHz
Working Channel	CH1~CH14, CH34-CH140, CH149~CH165
Security	OPEN,WEP,WPA/WPA2,TLS,TTLS(MS-CHAP), TTLS(MS-CHAP v2), TTLS (CHAP), TTLSMD5, TTLS-PAP, PEAP-TLS, PEAP(MS-CHAP v2)etc.
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps 802.11b: 1,2,5.5,11Mbps 802.11g: 6,9,12,18,24,36,48,54Mbps 802.11n: 6.5,13,19.5,26,39,52,58.5,65Mbps(20MHz,Long GI,800ns) 802.11n:7.2,14.4,21.7,28.9,43.3,57.8,65,72.2Mbps(20MHz,short GI,400ns) 802.11n: 6.5,13,19.5,26,39,52,58.5,65Mbps(20MHz,Long GI,800ns) 802.11n:7.2,14.4,21.7,28.9,43.3,57.8,65,72.2Mbps(20MHz,short GI,400ns) 802.11n:13.5,27,40.5,54,81,108,121.5,135Mbps(40MHz,Long GI,800ns) 802.11n:15,30,45,60,90,120,135,150Mbps(40MHz,short GI,400ns) 802.11ac:6.5,13,19.5,26,39,52,58.5,65,78Mbps(20MHz,Long GI,800ns) 802.11ac:7.2,14.4,21.7,28.9,43.3,57.8,65,72.2,86.7(20MHz,short GI,400ns) 802.11ac:13.5,27,40.5,54,81,108,121.5,135,162,180Mbps(40MHz,Long GI,800ns) 802.11ac:15,30,45,60,90,120,135,150,180,200Mbps(40MHz,short GI,400ns) 802.11ac:29.3,58.5,87.8,117,175.5,234,263.3,292.5,351,390Mbps(80MHz ,Long GI,800ns) 802.11ac:32.5,65,97.5,130,195,260,292.5,325,390,433.3Mbps (80MHz,short GI,400ns)
Antenna	Built-in antenna
Option 2	WWAN WCDMA (All network: 7 modes 22 frequency)
Frequency Band	GSM: Qual Band(850/900/1800/1900Mhz) TD-SCDMA: Band34,Band39 WCDMA: Band1,Band2,Band5,Band8 CDMA 1x /EVDO : BC0\BC1 TDD-LTE: Band38,Band39,Band40,Band41 FDD-LTE: Band1, Band2, Band3, Band5, Band7, Band8
Communication Rate	GPRS: DL / UL171.2kbps; EDGE: DL / UL384 kbps TD: DL 4.2 Mbps / UL 2.2 Mbps DC-HSPA+: DL 42Mbps / UL 5.76 Mbps

	CDMA1x: DL 153.6kbps/ UL 153.6kbps; EVDO: DL 3.1 Mbps / UL 1.8 Mbps TDD-LTE: DL 117 Mbps / UL 30 Mbps(CAT4) FDD-LTE: DL 150 Mbps / UL 50 Mbps(CAT4)
Option 3	WPAN Bluetooth
Standard	Bluetooth 4.2(Support BLE)
Power	Class II

4. CoreHand (ANDROID 9.0) THIRD PARTY APPLICATION DEVELOPMENT

System Software	Android 9.0
System programming environment	Eclipse, Android Studio

5. CoreHand (ANDROID 9.0) PERIPHERALS AND ACCESSORIES

Standard Accessories	Universal Adapterx1, USB Cablex1, Hand Beltx1, batteryx1, Hand Tetherx1
Optional Accessories	Single Slot Battery Charger, Four-slot Battery Charger, Single Slot Charging Dock, Single Slot Charging Dock (support ethernet), Five-slot Charging Dock, Five-slot Charging Dock(support ethernet), Grip handle, Vehicle charger rack, Vehicle charger, OTG data cable, Multifunctional bag, Grip handle bag, Touch pen, Screen protector, PDA protective casing