

ImpulseRadar Raptor-45

ImpulseRadar real-time sampling Antenna type Raptor Centre frequency 450 MHz Signal to noise ratio (SNR) >100 dB Significant/useful number of bits Scans/second Survey speed >130 km/h @ 5 cm point interval Data acquisition rate 160 MHz Time window 166 ns (18-channels) Bandwidth >120%, fractional, -10 dB Acquisition mode Wheel, time or manual Positioning Wheel encoder, internal DGPS, external GPS, Total-station Integrated support for GPS (int./ext.), NMEA 0183 protocol Data time-tagging To 1ms of \GPS-time Power supply 12 V Li-lon rechargeable battery, or ext. 12 V DC source 0.5 A per channel Operating time 10 hours (8-channel with 50 Ah battery) Dimensions 230 x 165 x 160 mm (Antenna only) Weight 2.1 kg (Antenna only) Operating temperature 20° to +50°C Environmental P65 Regulatory certification P65 Regulatory certification P7C, CE USER INTERFACE Laptop PC (min. requirements) Display 10" backlit, sun-readable Operating system Windows 10 or later Processor 1 GHz, 64-bit (x64) Memory 2 GB RAM (64-bit) Storage 20 GB (64-bit) Graphics DirectX 9 graphics device with > WDDM 1.0 driver Ethernet 1 GB Recommendation Panasonic Tough Book FZ G1 (or equivalent) CARRIER SOLUTIONS Cart (up to 8-channels) Vehicle (up to 18-channels) Dimensions (when in use) Dimensions	•	•	
Antenna type	ANTENNA		
Centre frequency 450 MHz Signal to noise ratio (SNR) >100 dB Significant/useful number of bits >16 bit Scans/second >800 Survey speed >130 km/h @ 5 cm point interval Data acquisition rate 160 MHz Time window 166 ns (18-channels) Bandwidth >120%, fractional, -10 dB Acquisition mode Wheel, time or manual Positioning Wheel encoder, internal DGPS, external GPS, Total-station Integrated support for GPS (int./ext.), NMEA 0183 protocol Data time-tagging To 1ms of \GPS-time Power supply 12 V Li-lon rechargeable battery, or ext. 12 V DC source Doperating time 10 hours (8-channel with 50 Ah battery) Dimensions 230 x 165 x 160 mm (Antenna only) Weight 2.1 kg (Antenna only) User Integrated support for GPS (int./ext.) Diperating temperature -20° to +50°C Environmental IP65 Regulatory certification FCC, CE USSER INTERFACE Laptop PC (min. requirements) Display 10° backlit, sun-readable Operating system Windows 10 or later Processor >1 GHz, 64-bit (x64) Memory >2 GB RAM (64-bit) Storage >20 GB (64-bit) Graphics DirectX 9 graphics device with > WDDM 1.0 driver Communications interface Ethernet 1 GB Recommendation Panasonic Tough Book FZ G1 (or equivalent) CARRIER SOLUTIONS Cart (up to 8-channels) Vehicle (up to 18-channels) Dimensions (when in use) Dimensions (when in use) Dimensions in-folded 4-wheel solution 92 x 102 x 45 cm 3-wheel solution 92 x 90 x 45 cm Scan width (swathe) 60 cm 142 cm	Technology	ImpulseRadar real-time sampling	
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Significant/useful number of bits Scans/second	Centre frequency	450 MHz	
Scans/second >800 Survey speed > 130 km/h @ 5 cm point interval Data acquisition rate 160 MHz Time window 166 ns (18-channels) Bandwidth >120%, fractional, -10 dB Acquisition mode Wheel, time or manual Positioning Wheel encoder, internal DGPS, external GPS, Total-station Integrated support for GPS (int./ext.), NMEA 0183 protocol Data time-tagging To 1ms of \GPS-time Power supply 12 V Li-lon rechargeable battery, or ext. 12 V DC source Power consumption 0.5 A per channel Operating time 10 hours (8-channel with 50 Ah battery) Dimensions 230 x 165 x 160 mm (Antenna only) Weight 2.1 kg (Antenna only) Operating temperature -20° to +50°C Environmental IP65 Regulatory certification FCC, CE USER INTERFACE Laptop PC (min. requirements) Display 10° backlit, sun-readable Operating system Windows 10 or later Processor >1 GHz, 64-bit (x64) Memory >2 GB RAM (64-bit) Storage >20 GB (64-bit) Graphics DirectX 9 graphics device with > WDDM 1.0 driver Communications interface Ethernet 1 GB Recommendation Panasonic Tough Book FZ G1 (or equivalent) CARRIER SOLUTIONS Cart (up to 8-channels) Vehicle (up to 18-channels) Dimensions (when in use) Dimensions in-folded 4-wheel solution 92 x 102 x 45 cm 3-wheel solution 92 x 90 x 45 cm Scan width (swathe) 60 cm 142 cm	Signal to noise ratio (SNR)	>100 dB	
Survey speed > 130 km/h @ 5 cm point interval Data acquisition rate 160 MHz Time window 166 ns (18-channels) Bandwidth > 120%, fractional, -10 dB Acquisition mode Wheel, time or manual Positioning Wheel encoder, internal DGPS, external GPS, Total-station GPS support Integrated support for GPS (int./ext.), NMEA 0183 protocol Data time-tagging To 1ms of \GPS-time Power supply 12 V Li-lon rechargeable battery, or ext. 12 V DC source Power consumption 0.5 A per channel Operating time 10 hours (8-channel with 50 Ah battery) Dimensions 230 x 165 x 160 mm (Antenna only) Weight 2.1 kg (Antenna only) Operating temperature -20° to +50°C Environmental IP65 Regulatory certification FCC, CE USER INTERFACE Laptop PC (min. requirements) Display 10" backlit, sun-readable Operating system Windows 10 or later Processor >1 GHz, 64-bit (x64) Memory >2 GB RAM (64-bit) Storage >20 GB (64-bit) Graphics DirectX 9 graphics device with > WDDM 1.0 driver Communications interface Ethernet 1 GB Recommendation Panasonic Tough Book FZ G1 (or equivalent) CARRIER SOLUTIONS Cart (up to 8-channels) Vehicle (up to 18-channels) Dimensions (when in use) Dimensions in-folded 4-wheel solution 92 x 102 x 45 cm 3-wheel solution 92 x 90 x 45 cm Scan width (swathe) 60 cm 142 cm	Significant/useful number of bits	>16 bit	
Data acquisition rate Time window 166 ns (18-channels) Bandwidth >120%, fractional, -10 dB Acquisition mode Wheel, time or manual Positioning Wheel encoder, internal DGPS, external GPS, Total-station Integrated support for GPS (int./ext.), NMEA 0183 protocol Data time-tagging Power supply 12 V Li-Ion rechargeable battery, or ext. 12 V DC source Power consumption Operating time 10 hours (8-channel with 50 Ah battery) Dimensions 230 x 165 x 160 mm (Antenna only) Weight 2.1 kg (Antenna only) Operating temperature Environmental IP65 Regulatory certification FCC, CE USSER INTERFACE Laptop PC (min. requirements) Display 10" backlit, sun-readable Operating system Windows 10 or later Processor >1 GHz, 64-bit (x64) Memory >2 GB RAM (64-bit) Storage >20 GB (64-bit) Graphics DirectX 9 graphics device with > WDDM 1.0 driver Ethernet 1 GB Recommendation Panasonic Tough Book FZ G1 (or equivalent) CARRIER SOLUTIONS Cart (up to 8-channels) Vehicle (up to 18-channels) Dimensions (when in use) Dimensions (when in use) Dimensions in-folded 4-wheel solution 92 x 102 x 45 cm 3-wheel solution 92 x 90 x 45 cm Scan width (swathe) 60 cm 142 cm	Scans/second	>800	
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Acquisition mode Positioning Wheel encoder, internal DGPS, external GPS, Total-station Integrated support for GPS (int./ext.), NMEA 0183 protocol Data time-tagging To 1ms of \GPS-time Power supply 12 V Li-Ion rechargeable battery, or ext. 12 V DC source Power consumption Operating time 10 hours (8-channel with 50 Ah battery) Dimensions 230 x 165 x 160 mm (Antenna only) Weight 2.1 kg (Antenna only) Operating temperature -20° to +50°C Environmental IP65 Regulatory certification USER INTERFACE Laptop PC (min. requirements) Display 10" backlit, sun-readable Operating system Windows 10 or later Processor >1 GHz, 64-bit (x64) >2 GB RAM (64-bit) Storage >20 GB (64-bit) Graphics DirectX 9 graphics device with > WDDM 1.0 driver Ethernet 1 GB Recommendation Panasonic Tough Book FZ G1 (or equivalent) CARRIER SOLUTIONS Cart (up to 8-channels) Vehicle (up to 18-channels) Dimensions (when in use) Dimensions in-folded 4-wheel solution 92 x 102 x 45 cm 3-wheel solution 92 x 90 x 45 cm Scan width (swathe) 60 cm 142 cm	Time window	166 ns (18-channels)	
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3-wheel solution 92 x 90 x 45 cm Scan width (swathe) 60 cm 142 cm	Dimensions in-folded		
Scan width (swathe) 60 cm 142 cm	4-wheel solution	92 x 102 x 45 cm	
•	3-wheel solution	92 x 90 x 45 cm	
•	Scan width (swathe)	60 cm 142 cm	
	Weight	56 kg 91 kg	

SOFTWARE	
Talon-2 3D Data Acquisition software	- Quick and easy configuration and start-up
	- Positioning configuration and device sync monitoring
	- Visualization of radargram for each channel
	- Data merge, storage and export
Condor 3D GPR Processing &	- OspreyView (application of a novel method of visualizing
Interpretation Software	3D-GPR data)
	- Effective workflows
	- Efficient sub-surface imaging

ImpulseRadar products are under continuous development and we reserve the right to change specifications at any time and without prior notice. You may verify product specifications at any time by contacting our headquarters using the details listed below.