

Comparison of TSL® Mobile RAIN® RFID UHF Readers

	Wearable 1153	Standard Duty				Heavy Duty						
		1128	2128P	3138	2128L	1166	3166					
												
Read Range	Up to 2 m (6.5 ft)	Up to 5.5 m (18 ft)	Up to 9 m (29.5 ft)	Up to 9 m (29.5 ft)	Up to 15 m (49 ft)* *Orientation dependent	Up to 9 m (29.5 ft)	Up to 9 m (29.5 ft)	Read Range				
Maximum RF Output Power	Up to 26 dBm EIRP (region dependant)	Up to 32 dBm EIRP (region dependant)	Up to 34 dBm EIRP (region dependant)	Up to 34 dBm EIRP (region dependant)	Up to 35 dBm EIRP (region dependant)	Up to 34 dBm EIRP (region dependant)	Up to 34 dBm EIRP (region dependant)	Maximum RF Output Power				
IP Rating	IP54	IP54	IP54	IP54	IP54	IP67	IP67	IP Rating				
Drop Spec	1.2 m* *Multiple drops to concrete: 4 ft./ 1.2 m ambient, 3ft / 0.9m across the operating temperature range.	1.2 m* *Multiple drops to concrete: 4 ft./ 1.2 m ambient, 3ft / 0.9m across the operating temperature range.	1.2 m* *Multiple drops to concrete: 4 ft./ 1.2 m ambient, 3ft / 0.9m across the operating temperature range.	1.2 m* *Multiple drops to concrete: 4 ft./ 1.2 m ambient, 3ft / 0.9m across the operating temperature range.	1.2 m* *Multiple drops to concrete: 4 ft./ 1.2 m ambient, 3ft / 0.9m across the operating temperature range.	1.8 m* *Multiple drops to concrete: 1.8 m ambient.	1.8 m* *Multiple drops to concrete: 1.8 m ambient.	Drop Spec				
Optional 2D barcode imager	Yes	Yes	Yes	Yes	No	Yes	Yes	Optional 2D barcode imager				
CommandScan™	No	No	No	Includes CommandScan - instantly configure the reader by scanning special barcodes	No	No	Includes CommandScan - instantly configure the reader by scanning special barcodes	CommandScan™				
Security Features	Reader Static Authentication	Reader Static Authentication	Reader Static Authentication	HID OMINKEY™ Advanced security features including Mutual and Dynamic Authentication	Reader Static Authentication	Reader Static Authentication	Reader Static Authentication	Security Features				
Bluetooth® version	Bluetooth 2.1	Bluetooth 2.1	Bluetooth 4.2 Supports Classic, BLE & IAP2	Bluetooth 5.1* *v5.1 compatible, v4.2 compliant Supports Classic, BLE & IAP2	Bluetooth 4.2 Supports Classic, BLE & IAP2	Bluetooth 2.1	Bluetooth 5.1* *v5.1 compatible, v4.2 compliant Supports Classic, BLE & IAP2	Bluetooth® version				
Apple Mfi certified	Yes	Yes	Yes	Yes (pending)	Yes	Yes	Yes	Apple Mfi certified				
Internal Storage	Up to 32 GB* *Via Micro SD card (not supplied)	Up to 32 GB* *Via Micro SD card (not supplied)	Up to 32 GB* *Via Micro SD card (not supplied)	Up to 256 GB* *Via Micro SD card (not supplied)	16 GB* *For units manufactured in August 2020 onwards. Units manufactured before this date will be 8 GB.	16 GB* *For units manufactured in August 2020 onwards. Units manufactured before this date will be 4 or 8 GB.	32 GB	Internal Storage				
No. of tags that can be stored on an SD card (Batch Data Mode)	Up to 500 million tags* *Via Micro SD card (not supplied)	Up to 500 million tags* *Via Micro SD card (not supplied)	Up to 500 million tags* *Via Micro SD card (not supplied)	Up to 4 billion tags* *Via Micro SD card (not supplied)	Up to 250 million tags* *For units manufactured in August 2020 onwards.	Up to 250 million tags* *For units manufactured in August 2020 onwards.	Up to 500 million tags	No. of tags that can be stored on an SD card (Batch Data Mode)				
Tag de-duplication (removes duplication of tag reads)	Software Based	Software Based	Hardware based tag de-duplication	Hardware based tag de-duplication 10X more compared to 2nd-gen (21xx) readers - 500,000 compared to 50,000	Hardware based tag de-duplication	Software Based	Hardware based tag de-duplication 10X more compared to 2nd-gen (21xx) readers - 500,000 compared to 50,000	Tag de-duplication (removes duplication of tag reads)				
On-board accelerometer	No	No	Yes	Yes	Yes	No	No	On-board accelerometer				
Mounting options for a host device	Tablet Mount 	Slide-on Mounts* 	ePop-Loq® Mounts 	ePop-Loq® Mounts New, Faster ePop-Loq mode to accommodate higher tag throughput 	ePop-Loq® Mounts 	Pop-Loq® Mounts 	ePop-Loq® Mounts New, Faster ePop-Loq mode to accommodate higher tag throughput 	Mounting options for a host device				
Reader Model	1153	1128	2128P	3138	2128L	1166	3166	Reader Model				
Docking Options		 Docking Cradle* Order 1128-CRD-02-KIT *Slide-on Mounts must be removed from the 1128 in order to use the Docking Cradle	 Docking Cradle Order 2128-CRD-03-KIT	 Docking Cradle (for use with 8-way Power Pins option) Order 3138-CRD-01-KIT	 Docking Cradle Order 2128-CRD-02-KIT	 Docking Cradle Order 1166-CRD-01-KIT	 Docking Cradle Order 1166-CRD-01-KIT	Docking Options				
Battery	 'L' Battery	 'XL' Battery  Power Handle (order: 2102-PH-Y)	 'XL' Battery  Power Handle (order: 2102-PH-Y)	 Power Handle included Removable. Choice of USB-C connector, or 8-way Power Pins for use with docking cradle.	 Power Handle included Built-in (non-removable)	 High Capacity Battery	 High Capacity Battery	Battery				
Minimum operating time ¹	Light use ² : 10 hrs Moderate use ² : 6.5 hrs Heavy use ⁴ : 2.5 hrs	6 hrs Light use² 3.5 hrs Moderate use² 1.5 hrs Heavy use⁴ 16 hrs Moderate use³ 9 hrs Heavy use⁴ 4.5 hrs	8.5 hrs Light use² 5 hrs Moderate use² 2.5 hrs Heavy use⁴ 22.5 hrs Moderate use² 13 hrs Heavy use⁴ 7.5 hrs		TBC	Light use ² : 22.5 hrs Moderate use ² : 15.5 hrs Heavy use ⁴ : 7 hrs	Light use ² : 25 hrs Moderate use ² : 16.5 hrs Heavy use ⁴ : 8 hrs	Light use ² : 33.5 hrs Moderate use ² : 21.5 hrs Heavy use ⁴ : 12 hrs ⁵	Minimum operating time ¹			
Tag Reads per single battery charge	1 million	1 million	1 million 2.3 million		TBC	2.3 million	2.6 million	4.5 million	Tag Reads per single battery charge			
Charge Time	2 hrs	2.5 hrs	2.5 hrs 5 hrs		TBC	5 hrs	2.5 hrs	2.5 hrs	Charge Time			
Keyboard Support (in HID Mode)	US HID Keyboard Support	US HID Keyboard Support	International HID Keyboard Support	International HID Keyboard Support	International HID Keyboard Support	International HID Keyboard Support*	US HID Keyboard Support	International HID Keyboard Support	Keyboard Support (in HID Mode)			
Country Certifications	Albania Andorra Austria Belgium Bhutan Bosnia & Herzegovina Brazil (Licensed via ACURA) Bulgaria China Colombia Croatia Cyprus Denmark Ecuador El Salvador Estonia Falkland Islands Finland France French Guiana Georgia (Licence Required) Germany Greece Greenland Guadeloupe Guam Guatemala Guernsey Hungary Iceland India Ireland Italy Jersey Kazakhstan Latvia Liechtenstein Lithuania For other regions, please contact enquiries@tsl.com	Luxembourg Macedonia Malta Martinique Monaco Montenegro Netherlands Northern Mariana Islands Poland Portugal Puerto Rico Romania Slovakia Slovenia Spain Sweden Switzerland Taiwan (Licensed via ID-MART for NEC) Thailand (Licence Required) United Kingdom United States of America (USA) Vietnam For other regions, please contact enquiries@tsl.com	Japan (Licensed via Xerafy) Jersey Latvia Liechtenstein Lithuania Luxembourg Malta Martinique Monaco Montenegro Netherlands New Zealand Northern Mariana Islands Norway Peru (Licensed via ACURA) Poland Portugal Puerto Rico Romania Slovakia Slovenia Spain Sweden Switzerland United Kingdom United States of America (USA) For other regions, please contact enquiries@tsl.com	Albania Andorra Austria Australia Bangladesh Belgium Bhutan Bosnia & Herzegovina Bulgaria Canada Croatia Cyprus Czech Republic Denmark Ecuador Estonia Falkland Islands Finland France French Guiana Georgia (Licence Required) Germany Greece Greenland Guadeloupe Guam Guatemala Guernsey Hungary Iceland India Ireland Italy Jersey Latvia Liechtenstein Lithuania Luxembourg Macedonia Malta Martinique For other regions, please contact enquiries@tsl.com	Monaco Montenegro Netherlands New Zealand Northern Mariana Islands Norway Poland Portugal Puerto Rico Romania Slovakia Slovenia Spain Sweden Switzerland United Kingdom United States of America (USA) For other regions, please contact enquiries@tsl.com	Albania Andorra Austria Australia Bangladesh Belgium Bhutan Bosnia & Herzegovina Brazil (Licensed via ACURA) Bulgaria Colombia Croatia Cyprus Czech Republic Denmark Ecuador El Salvador Estonia Falkland Islands Finland France French Guiana Georgia (Licence Required) Germany Greece Greenland Guadeloupe Guam Guatemala Guernsey Hungary Iceland India Ireland Italy Jersey Latvia Liechtenstein Lithuania Luxembourg Macedonia For other regions, please contact enquiries@tsl.com	Malta Martinique Monaco Montenegro Netherlands Northern Mariana Islands Norway Poland Portugal Puerto Rico Romania Slovakia Slovenia Spain Sweden Switzerland United Kingdom United States of America (USA) For other regions, please contact enquiries@tsl.com	Albania Andorra Austria Bangladesh Belgium Bhutan Bosnia & Herzegovina Brazil (Licensed via ACURA) Bulgaria Canada Colombia Croatia Cyprus Czech Republic Denmark Ecuador El Salvador Estonia Falkland Islands Finland France French Guiana Georgia (Licence Required) Germany Greece Greenland Guadeloupe Guam Guatemala Guernsey Hungary Iceland Iraq Ireland Italy Japan Jersey Kazakhstan For other regions, please contact enquiries@tsl.com	Latvia Liechtenstein Lithuania Luxembourg Macedonia Malta Martinique Monaco Montenegro Netherlands Northern Mariana Islands Norway Poland Portugal Puerto Rico Romania Slovakia Slovenia Spain Sweden Switzerland Thailand (Licence Required) United Kingdom United States of America (USA) For other regions, please contact enquiries@tsl.com	Albania Andorra Austria Australia Bangladesh Belgium Bhutan Bosnia & Herzegovina Brazil (Licensed via ACURA) Bulgaria Canada Colombia Croatia Cyprus Czech Republic Denmark Ecuador El Salvador Estonia Falkland Islands Finland France French Guiana Georgia (Licence Required) Germany Greece Greenland Guadeloupe Guam Guatemala Guernsey Hungary Iceland Ireland Italy Jersey Latvia Liechtenstein Lithuania Luxembourg For other regions, please contact enquiries@tsl.com	Macedonia Malta Martinique Moldova Monaco Montenegro Netherlands New Zealand North Macedonia Northern Mariana Islands Puerto Rico Poland Portugal Qatar Romania Slovakia Slovenia Spain Sweden Switzerland UAE United Kingdom United States of America (USA) For other regions, please contact enquiries@tsl.com	Country Certifications
	1153 Wearable	1128	2128P	3138	2128L		1166	3166				
		Standard Duty				Heavy Duty						

¹Figures are based on new units that have been stored, charged and operated within the Environmental Specifications stated on the Reader datasheet. Units stored over 3 months must be recharged every 3 months. Number of transponders in the environment affects minimum operating time.
²Light Use: Continuous RFID Inventories for 20% of every 120s.
³Moderate Use: Continuous RFID Inventories for 10% of every 30s.
⁴Heavy Use: Continuous RFID Inventories for 5% of every 60s.
⁵When operating in the "Eco" battery saver mode.