



Globaltop GNSS Product Comparison Table

Product Identification		Family	Ivory Family		FireFly Family		LadyBird Family		Titan Family	
		Name	Ivory 3	Ivory 4	Firefly X1 <i>Recommended</i>	Firefly 1	Ladybird 1	Ladybird 3	Titan 2	Titan X1 <i>Recommended</i>
Picture										
Part Number			GMM-U2P	FGPMMOSL3C	GMM-3301	GMM-G3	FGPMMOPA6H	FGPMMOPA6C	GMS-G6	GMS-3302
Chipset			MT3339	MT3339	MT3333	MT3333	MT3339	MT3339	MT3333	MT3333
System			GPS	GPS	GPS + Glonass	GPS + Glonass	GPS	GPS	GPS + Glonass	GPS + Glonass
Physical Characteristics		Size (mm)	12.7 x 9 x 2.1	11.5 x 13 x 2.1	9.0 x 9.5 x 2.1	11.5 x 13 x 2.1	16 x 16 x 4.7	16 x 16 x 6.2	16 x 16 x 6.8	12.5 x 12.5 x 6.8
		Weight (grams)	1	2	0.4	1	4	6	6	4
		Pins	18 Pins LCC	16 Pins LCC	20 Pins QFN	16 Pins LCC	20 Pins LCC	13 Pins LCC	20 Pins LCC	24 Pins QFN
		Built-in Antenna	-	-	-	-	Patch 15x15x2.5	Patch 15x15x4	Patch 15x15x4	Patch 12x12x4
		Operation Temperature (*C)	-40 to +85	-40 to +85	-40 to +85	-40 to +85	-40 to +85	-40 to +85	-40 to +85	-40 to +85
Channels		Acquisition	22	22	33	33	22	22	33	33
		Tracking	66	66	99	99	66	66	99	99
Sensitivity (dBm)		Acquisition	-148	-148	-148	-148	-148	-148	-148	-148
		Tracking	-165	-165	-165	-165	-165	-165	-165	-165
TTFF (seconds)		Cold Start	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)
		Warm Start	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)
		Hot Start	1	1	1	1	1	1	1	1
Positioning Accuracy (CEP)		Without Aid	< 3.0m	< 3.0m	< 3.0m	< 3.0m	< 3.0m	< 3.0m	< 3.0m	< 3.0m
		DGPS	< 2.5m	< 2.5m	< 2.5m	< 2.5m	< 2.5m	< 2.5m	< 2.5m	< 2.5m
Power Consumption (mA)		Acquisition (min./typ./max.)	14/17/20	19/29/37	22/26/31	29/33/37	22/30/37	19/29/37	20/25/30	23/27/30
		Tracking (min./typ./max.)	13/19/24	16/23/30	20/25/36	24/31/36	19/24/36	16/23/30	18/23/28	20/25/35
		GLP Mode (min./typ./max.)	TBA	TBA	7/16/32	TBA	TBA	TBA	TBA	7/16/32
Power Supply (v)		Input Voltage	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3
		Backup Voltage	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3
Interfaces		UART	✓	✓	✓	✓	✓	✓	✓	✓
		I ² C	-	-	✓	-	-	-	-	✓
		RTCM	✓	✓	✓	✓	✓	-	✓	✓
		SPI	-	-	✓	-	-	-	-	✓
		External Antenna Input	✓	✓	✓	✓	✓	-	-	✓
		RF Detection, Current Protection	-	-	-	-	✓	-	-	✓
		Reset Input	✓	✓	✓	✓	✓	-	-	✓
		1PPS Output	✓	✓	✓	✓	✓	✓	✓	✓
		3D Fix output	✓	✓	✓	✓	✓	✓	✓	✓
		Enable Input	-	-	-	-	-	-	-	✓
Product Features		DGPS SBAS	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN
		Offline AGPS	✓	✓	✓	✓	✓	✓	✓	✓
		Embedded Logger	✓	✓	✓	✓	✓	✓	✓	✓
		Anti-Jamming	✓	✓	✓	✓	✓	✓	✓	✓
		Protocols	NMEA, RTCM, MTK	NMEA, RTCM, MTK	NMEA, RTCM, MTK	NMEA, RTCM, MTK	NMEA, RTCM, MTK	NMEA, MTK	NMEA, RTCM, MTK	NMEA, RTCM, MTK
		Update Rate (default: 1 Hz)	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz
		Always Locate (Advance Power Periodic Mode)	✓	✓	✓	✓	✓	✓	✓	✓
Certifications		CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	

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