


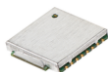






Globaltop GNSS Module Family

Product Identification		Family		Ivory Family		FireFly Family			LadyBird Family		Titan Family	
		Name		Ivory 3	Ivory 4	FireFly X1	FireFly 1	FireFly 1b	LadyBird 1	LadyBird 3	Titan 2	Titan 3
		Picture		Recommended		New	Recommended	Recommended		Recommended	Recommended	Recommended
												
				GMM-U2P	FGPMMOSL3C	GMM-3301	GMM-G3	GMM-G3(B)	FGPMMOPA6H	FGPMMOPA6C	GMS-G6	GMS-G9
				MT3339	MT3339	MT3333	MT3333	MT3333	MT3339	MT3339	MT3333	MT3333
System		GPS	GPS	GPS + Glonass	GPS + Glonass	GPS + Beidou	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	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	19.5 x 19.5 x 7.2		
	Weight (grams)	1	2	0.7	1	1	4	6	6	8		
	Pins	18 Pins LCC	16 Pins LCC	20 Pins QFN	16 Pins LCC	16 Pins LCC	20 Pins LCC	13 Pins LCC	20 Pins LCC	12 Pins LCC		
	Built-in Antenna	-	-	-	-	-	Patch 15x15x2.5	Patch 15x15x4	Patch 15x15x4	Patch 18.5x18.5x4		
	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	- 40 to + 85		
Channels	Acquisition	22	22	33	33	33	22	22	33	33		
	Tracking	66	66	99	99	99	66	66	99	99		
Sensitivity (dBm)	Acquisition	-148	-148	-148	-148	-148	-148	-148	-148	-148		
	Tracking	-165	-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)	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)	33 (5 with AGPS)		
	Hot Start	1	1	1	1	1	1	1	1	1		
Positioning Accuracy (CEP 50)	Without Aid	< 3.0m	< 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	< 2.5m		
Power Consumption (mA)	Acquisition (min./typ./max.)	14/17/20	19/29/37	20/25/32	29/33/37	29/33/37	22/30/37	19/29/37	20/25/30	29/33/37		
	Tracking (min./typ./max.)	13/19/24	16/23/30	18/24/30	24/31/36	24/31/36	19/24/36	16/23/30	18/23/28	24/31/36		
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	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	2.0~4.3		
Interfaces	UART	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	I²C	-	-	✓	-	-	-	-	-	-		
	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	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, 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	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	CE/FCC E911 ROHS/REACH		