AMA Advanced Flight System Committee

Remote ID Module Status Report

(Summer 2023)

UPDATED - September 5, 2023

2023 SUMMER STATUS OF FAA COMPLIANT REMOTE-ID MODULES

AMA's Advanced Flight Systems Committee members Tyler Dobbs, Tony Stillman, and Andy Argenio, have been participating in meetings since 2020 with developers of Remote ID modules to evaluate their systems, specifications, and test results. This past year, AMA and members flew model airplanes with several manufacturers' modules affixed to them. The modules tested proved to be easy to set up, configure, and use the recommended cell/iPad display apps. The position data of longitude, latitude, and altitude, including the serial number, velocity, and the flight tracking broadcasted and displayed on cell phones/iPads were accurate at ranges exceeding a kilometer. There wasn't any noted radio-frequency interference with the onboard R/C systems.

One means of Remote ID compliance is to affix an FAA-approved Remote ID module on/in their model aircraft to fly at places other than their club FRIA sites. This report allows pilots to view a chart on the following age that lists 16 Remote ID modules with their prices and specifications for easy comparisons. The chart includes active links to sellers' websites and datasheets on the GPS receiver and Bluetooth broadcast module chips for those who want to explore more technical data.

All of the modules listed have met or exceeded the FAA's § 89.320 minimum performance requirements including ASTM F3411-22a standards. Today's GNSS/GPS receiver module chips can achieve horizontal position accuracies of between 5 and 10 feet and vertical accuracy of 16 feet or less, 95% of the time. This exceeds FAA's horizontal accuracy requirements of 100 feet, and vertical accuracy of 150 feet 95% of the time.

This report was submitted on September 5, 2023, with 16 modules on the following chart with 14 being standalone plug-and-play Remote ID broadcast modules and two being for drones pre-equipped with GPS.

Prices vary because the Remote ID module might be with or without battery and case, or have different versions of GNSS/GPS satellite receiver and Bluetooth broadcast module chips. The ultramicro size and lightweight module chips and those with better position accuracy, and range cost more. The Bluetooth 5.0/5.1 version chips cost more because they draw much less current, providing more hours of runtime, and at 2Mb/sec doubling the data transmit rate and providing better error correction than the older Bluetooth 4.0+ versions. Those with features that allow for logging of flight data or data telemetry to user's transmitters and/or network capability will cost more. When and where manufacturing is done and shipped from can add to the selling prices.

Although there are more than 20 Remote ID modules that have an FAA Declaration of Compliance, this chart reflects 16 Remote ID modules that AMA has reviewed, tested, or investigated. Please click website listings in column (A) for the most up-to-date information.

	A	B	C	D	E	F	G	H
	RID-Module & Website	**Price**	**Weight**	**Size inch**	**Battery**	**Bluetooth IC Chip**	**GPS IC Chip**	**Features**
1	uAvionix - pingRID USA	$299	21 g.	1.0 x 0.7 x 1.7	2 hours	ESP32-C3-MINI-1 v5.0	SAM-M8Q	In a case
2	Blue Mark – Db121pcb Netherlands, Eur.	$106	5 g.	1.3 x 1.4 x .19	Requires 5-14v	ESP32-C3- WROOM-02 v5.0	ATGM336H 5N31	PC board
3	Blue Mark – Db121 Netherlands, Eur.	$118	11 g.	1.4 x 1.5 x 1.0	Requires 5-14v	ESP32-C3- WROOM-02 v5.0	ATGM336H 5N31	In a case
4.	Blue Mark – Db120 Netherlands, Eur.	$139	25 g.	1.9 x 1.5 x 1.0	3 hours	ESP32-C3- WROOM-02 v5.0	ATGM336H 5N31	In a case
5.	Blue Mark-Db122fpv Netherlands, Eur.	$76	4.5 g.	1.0 x 1.0 x 0.16	Requires 4.5-15v	ESP32-C3- WROOM-02 v5.0	**For Drones with GPS**	For FPV
6.	Drone Def. AeroPing United Kingdom	$199	38 g.	1.8 x 2.3 x 0.79	8 – 14 hours	ESP32-C3-MINI-1U v5.0	GPS chip Not published	In a case
7.	Dronetag - Beacon Czech Republic	$215	16 g.	1.5 x 1.0 x 0.6	8 – 16 hours	LAIRD BL653 v5.1	MIA-M10Q	In a case
8.	Dronetag Mini network Czech Republic	$299	32 g.	2.1 x 1.3 x 0.6	8 - 16 hours	LAIRD BL653 v5.1	MIA-M10Q	In a case Network
9.	Zephyr Systems Db120 USA	$305	25 g.	1.9 x 1.5 x 1.0	3 hours	ESP32-C3- WROOM-02 v5.0	ATGM336H 5N31	Not OEM
10.	Dronetag-Basic Solution Czech Republic	$89	3 g.	.66 x .55 x .19	Requires 3.3-17v	ANNA-B412 v5.1	MIA-M10Q	PCB/case Telemetry
11.	Dronetag-DRI Czech Republic	$49	1.5 g. No case	0.89 x 0.62 x 0.19	Requires 3.3-17v	ANNA-B412 v5.1	**For Drones with GPS**	PC board
12.	Aerobits idME Poland	$191 - $250	4 g.	1.24 x 0.61 x 0.29	Requires 5.0v	ESP32 SERIES v5.0	ZOE-M8B	In a case
13.	Futaba FRID-1 Japan	$120	9 g.	0.79 x 1.0 x 0.31	Require 3.5-8.4v.5- 8.4v	Bluetooth chip not published	GPS chip Not published	Shrink wrap
14.	B1 Remote ID Beacon USA	$265	30 g.	2.87 x 0.94 x 0.75	6 hours	LAIRD BL654 v5.0	GPS chip Not published	In a case
15.	EZ-ID USA	$109	10 g.	Not published yet.	Requires 2S to 8s	NFR52849 v5.0	SAM-M8Q	PC board
16.	SKY ID USA	Under $100	14 g.	1.38 x 0.90 x 0.65	Requires 3.3-9v	Bluetooth chip not published	MIA-M10Q	In a case Telemetry

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