

AMA Advanced Flight System Committee
Remote ID Module Status Report
(Spring 2024)



2024 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 (RID) modules to evaluate their systems, specifications, and test results. In the past few years AMA members flew model airplanes with modules affixed to them from seven of the manufacturers. 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 over a kilometer. There wasn't any noted RF interference with the onboard R/C systems.

On March 16, 2024, recreational RC flyers will have to affix an FAA-approved RID module on/in their model aircraft to fly at other than their club FRIA sites. To aid flyers who may want to purchase a module the online PDF version of this AMA RID Module Status Report is updated when a module is listed on the FAA Declaration of Compliance webpage. This report allows pilots to view a chart on page 2 that lists each of the RID modules with their prices and specifications for easy comparisons with active links to seller's websites and datasheets on the GPS receiver and Bluetooth (BT) broadcast module's chips for those who want to explore more technical data.

All 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 5ft. to 10 ft. and vertical accuracy of 16 ft. or less 95% of the time. This exceeds FAA's horizontal accuracy requirements of 100 ft., and vertical accuracy of 150 ft. 95% of the time. The maximum broadcast range of the modules is limited to the Bluetooth (BT) range of about 2 km.

When this report was updated, there were 16 RID modules on the page 2 chart with **14 stand-alone plug & play** RID broadcast modules and **2 for drones already equipped with GPS**. There are **6 RID modules** from uAvionix, Pierce Aerospace, FliteTest, Horizon Hobby, Holy Stone and Z-RID that are **available in the USA** for ordering. in the USA however others will be introducing modules. Popular listed FAA Modules from Dronetag in the Czech Republic and Blue Mark in the Netherlands, Eur. have been selling in the USA since October of 2022. Some of these will soon be available from USA distributors and retailers.

Prices vary because the RID module may be with or without battery and case or have different versions of GNSS/GPS satellite receiver and Bluetooth (BT) broadcast module chips. The ultra-micro size and lightweight module chips and those with better position accuracy, and range cost more. The BT 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 BT 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 selling prices. FAA's \$50 estimate cost of modules in 2020 was based on module chips that are now obsolete with less transmission range of data and accuracy.

	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	Discontinued							
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-DR1 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.	Discontinued							
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
17.	HOLY STONE HSRID01 AMAZON, USA	\$89.99	14 g.	1.54 x 1.18 x 0.51	5 hours Lipo	Bluetooth v5.0 Not Published	GPS Chip Not Published	In a case
18.	Z-RID Lite USA Sales	\$84.99	30 g.	1.57 x 1.57 x 1.18	4 hours Lipo	Bluetooth v4-v5 Not Published	GPS Chip Not Published	In a case

DRONE SCANNER APPS

One of the most popular Apps available for iOS and Android devices.

For Android: https://play.google.com/store/apps/details?id=cz.dronetag.dronesscanner&hl=en_US&gl=US

For iPhone: <https://apps.apple.com/us/app/drone-scanner/id1644548782>

AIR SENTINEL APP: For Android devices available at: https://play.google.com/store/apps/details?id=com.app.airsentinel&hl=en_US&gl=US

OPEN DRONE ID OSM: For Android devices available at: at https://play.google.com/store/apps/details?id=org.opendroneid.android_osm&hl=en&gl=US

NOTE – For a FliteTest EZ-ID module uses a **proprietary APP** since it requires registering their EZ-ID module to use/open the App and although the App works, its tracking accuracy from reviewers wasn't as good as the Drone Scanner App which also provides additional useful data information beyond the EZ-ID and FAA requirements.

Unfortunately, not all cell phones especially older legacy models work with all the current Remote-ID modules which utilize Bluetooth 4+/5 to receive the advertised message.

CHART IS UPDATED AS NEW RID MODULES BECOME AVAILABLE

For the latest versions of this report go to amadistrict-i.org/rids.



Academy of Model Aeronautics
www.ModelAircraft.org