

Declaration of Waiver Conditions

To whom it may concern

Here we confirm that our product under FCC ID: **RFD-BLK2FLY** is fully compliant with the special conditions (Section 10) of the FCC Waiver **DA 20-795** released on July 28, 2020.

Following conditions are applicable and met:

- 1) The Leica Ictos¹ device is certified for compliance with all the technical specifications applicable to operation under 47 CFR part 15, with the exception of the following provisions in: 1) 47 CFR § 15.255(a)(2), which is waived to allow the device to operate under the provisions of 47 CFR § 15.255 as a mobile field disturbance sensor;
- 2) 47 CFR § 15.255(b)(2), which is waived to allow the device to operate on-board a UA while not being part of a closed, exclusive on-board communication networks within the aircraft; and 3) 47 CFR § 15.255(c)(3), which is waived to allow the device to operate in the 60-64 GHz band at a maximum +19 dBm peak EIRP.
- 3) The Leica Ictos¹ device is installed to transmit on a horizontal plane with respect to the UA on which it is mounted to limit emissions above the horizon. Operation is limited to line-of-sight only.

In detail, the Leica Ictos¹ radar antenna is designed to have a narrow vertical radiation pattern as shown in Figure 1 as example, all measurements are documented in "V-ACR-HEX-00AA0 TX Antennendiagramm.pdf" and "V-ACRSP-HEX-00DA0 TX Antennendiagramm.pdf" which are uploaded as a part of this application filling.

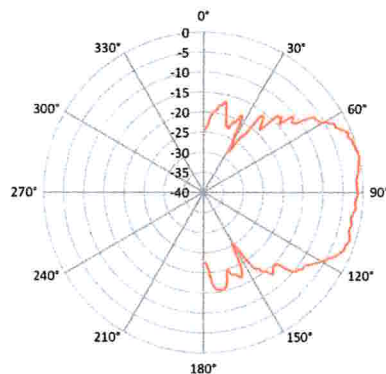


Figure 1 V-ACR-HEX-00AA0 TX1 Elevation 60GHz

On the UAV the Leica Ictos¹ radar modules are mounted in the back of the UAV on a horizontal plane and on the right and left side with a 3° tilted down angle from the horizontal plane. The flight principle of a quadrotor UAV is to tilt the vehicle into the direction where motion is desired. For this the flight control system controls the UAV angles

¹ At the time of the application (2020) of the waiver Leica chose the Name Ictos for the device, which has now been changed to BLK2FLY. No further changes were made.

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very precisely in a relatively small range of angles. Figure 2 shows the distribution of angles used in normal flight conditions. As a safety layer the maximum flight angles the UAV during operation is limited by the flight controller to $\pm 35^\circ$. Overall this system design ensures minimal emissions in vertical directions.

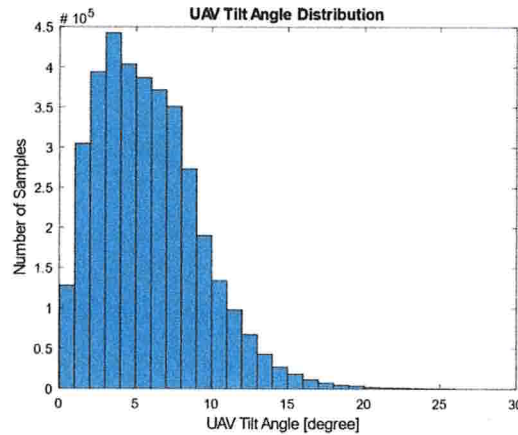


Figure 2 UAV tilt angle distribution recorded during 10h of flight time

4) The Leica Ictos¹ device comply with the following technical characteristics:

- a) intentional emissions will be contained to the 60-64 GHz band;
- b) out-of-band emissions will not exceed -51.3 dBm EIRP/MHz;
- c) transmit duty cycle will not exceed 50% over any 40 milliseconds interval; and
- d) transmission will occur only when the device is in motion.

5) Leica Ictos¹ devices is allowed to operate below a maximum altitude of 400 feet above ground level, unless the small unmanned aircraft:

- (1) is flown within a 400-foot radius of a structure;

and

- (2) does not fly higher than 400 feet above the structure's immediate uppermost limit.

6) U.S. sales will not exceed 400 Leica Ictos¹ devices in the first year and up to 800 per year for subsequent years. The Leica Ictos¹ device is not be marketed for retail consumer markets.

BLK2FLY is a highly specialized scanning device for the reality capture and surveying market. With its dual-axis LiDAR payload it is aimed at business markets only and with a price of 56'000 USD in a premium segment thereof. Due to this the expected product demand in the USA is lower than 400 devices per year. In the unlikely case of a higher demand, we would limit sales accordingly.

7) This waiver and its conditions apply only to the Leica Ictos¹ device installed on a UA as described herein and are not to be considered to apply generally to other field disturbance sensors or radars. A copy of this Order will be provided with the application for certification of the Leica Ictos¹ device.

Handwritten initials: JS and HP

This declaration is issued based on our current status of design and manufacturing.

Leica Geosystems AG, 2022-03-04



Paul Hämmerle
Quality Manager Innovation
Leica Geosystems AG



Pascal Strupler
Business Director Autonomous RC
Hexagon Geosystems Services AG

