European Union Aviation Safety Agency

Technical Aspects and Interoperability

How does ADS-L transmission power compare to traditional ADS-B, and what does that mean for range?

Answer

ADS-L transmission power is limited to 14 dBm (25 mW ERP) in the M-band and 27 dBm (500 mW) in the O-band, as per the SRD860 spectrum regulations. While the transmission power is lower than traditional ADS-B, ADS-L can still achieve air-to-air ranges of over 10 km, making it suitable for its intended use. The range of ADS-L is highly dependent on installation, and following best practices can help achieve optimal performance.

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Link:
https://www.easa.europa.eu/en/faq/141890

Will ADS-L be interoperable with existing ADS-B and Mode S transponders?

Answer

Certified ADS-B and Mode S transponders will not be upgradeable in the near future to integrate ADS-L. However, new and simple devices receiving both ADS-B and ADS-L will appear on the market, facilitating data exchange and enhancing situational awareness. The interoperability of ADS-L with existing systems will enable a more comprehensive and accurate picture of the traffic in the airspace, improving safety and reducing the risk of collisions.

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https://www.easa.europa.eu/en/faq/141891

Does ADS-L equipment transmit flight data such as position and altitude, similar to ADS-B Out?

Answer

Answer

Yes, ADS-L transmits parameters identical to those contained in ADS-B Out messages, including aircraft identification, position, GNSS altitude and more, but it does not require the transmission of e.g. barometric altitude, making the device more affordable. It also supports additional payload types, enabling future use cases such as traffic rebroadcasting, weather, etc.

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What frequencies does ADS-L use?

Answer

Similarly to many systems already in use, ADS-L can be used on the M-band and O-band of the SRD860 spectrum. The ADS-L standard specifies the use of two frequencies in the M-band (868.2 MHz, 868.4 MHz) and one frequency in the O-band (869.525 MHz). In the future, ADS-L may be used over other links (e.g. mobile networks).

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Does ADS-L require a GNSS source or other external sensors to provide accurate positioning?

Answer

Devices transmitting ADS-L rely only on a GNSS position source, configuration settings, and pilot inputs to elaborate the ADS-L messages.

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