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Innovative radar systems (also known as short-range radars or SRR) are used to actively protect cars against collisions. Once widely used, they could make roads safer for all users.
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Active safety

Automotive short-range radar (SRR) systems use the radio spectrum around a vehicle to detect obstacles such as other vehicles or walls. If the vehicle is moving, the radars can alert the driver to possible impacts - or even automatically trigger safety devices such as seat belts or air bags. Ultimately such systems could include automated braking to avoid or mitigate collisions.

Introducing active safety systems in vehicles therefore supports the EU’s policy goal of halving road deaths.

An increasing number of motorists are familiar with simple parking assistance systems, mostly using ultrasound technology, that help to manoeuvre a car into a parking space. But SRR systems using radio frequency are much more elaborate devices. The first vehicles to incorporate SRR technology were luxury cars; but some expect that ordinary cars could be deploying the technology within ten years. Analysis of data from these initial vehicle systems indicates that they do increase safety: to ensure that all EU road users can benefit, it is necessary to allow the use of short-range radars in specific parts of the radio spectrum.

Frequency bands for road safety

To aid development and deployment of SRR systems in the EU, automotive short-range radars are permitted to use two harmonised frequency bands: the 24 GHz and 79 GHz bands. The 79 GHz band is considered to be the long-term operating frequency for SRR and has therefore been allocated on a permanent basis since 2004.

However, the first applications of the technology have used the 24 GHz band. SRR systems are only allowed to use this band if they follow detailed regulatory restrictions to protect other users in the 24 GHz frequency range - users such as radio astronomy stations, earth exploration satellites and other satellite services.

In fact, only 7% of the total number of the EU's cars can be equipped with SRR systems operating in the 24 GHz band.

Extension of the use of the 24 GHz band for SRR

Originally it was expected that, by 2013, new systems for the 79 GHz band would be available and that the use of the 24 GHz band could therefore be phased out. However, the automotive industry has experienced significant delay in developing SRR systems to operate in the 79 GHz band, and it has become clear that new systems with 79 GHz technology would not be mature enough for commercial deployment in cars by 2013.

In order to bridge the technological gap, the Commission assessed possible solutions, including to extend the period in which SRR equipment operating at 24 GHz could be placed in new cars. The result showed that the original assumptions about protecting other spectrum users remained valid, so an extension of the use of 24 GHz band was possible.

Following **a public consultation** [1], on 29 July 2011 the Commission amended the Decision on the harmonisation of the 24 GHz range radio spectrum band for use by automotive short-range radar equipment (2005/50/EC [2]).

The amending Decision [3] prolongs the use of the upper part of the 24 GHz band for SRR from the original date of 30 June 2013 to 1 January 2018. The Decision also extends by a further 4 years (until 1 January 2022) the possibility of mounting 24 GHz SRR equipment in cars where type approval [4] was granted before 1 January 2018.

More information

- Commission Decision **2011/485/EU** **[3]** amending Commission Decision **2005/50/EC** **[5]** of 17 January 2005 on the harmonisation of the 24 GHz range radio spectrum band for the time-limited use by automotive short-range radar equipment in the Community
- The public consultation "**Call to stakeholders for their views on the proposed amendment to Commission Decision 2005/050/EC** **[6]**" (Short Range Radars - SRR) published on 14 December 2010 ended on 15 February 2011. See the **responses** [1].
- Radio Spectrum Committee Document **RSCOM10-35** [7] Report from CEPT to the European Commission in response to Part 1 of the Mandate on SRR
- Radio Spectrum Committee Document **RSCOM10-22** [8] Report from CEPT to the European Commission in response to Part 2 of the Mandate on SRR
- Radio Spectrum Committee Document **RSCOM08-51** [9] Automotive short-range radars: 3rd Annual Report and request by SARA to review EC Decision on the use of 24 GHz band by SRR
- Commission Communication **COM(2007)541** **[10]**, "Towards Europe-wide Safer, Cleaner and Efficient Mobility: The First Intelligent Car Report".
- Commission Decision **2005/50/EC** **[5]** of 17 January 2005 on the harmonisation of the 24 GHz range radio spectrum band for the time-limited use by automotive short-range radar equipment in the Community
- Commission Decision **2004/545/EC** **[11]** of 8 July 2004 on the harmonisation of radio spectrum in the 79 GHz range for the use of automotive short-range radar equipment in the Community
- Commission Communication **COM(2003)542** [12] on "Information and Communications Technologies for Safe and Intelligent Vehicles"
- **Get involved** [13]

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[3] https://ec.europa.eu/digital-agenda/en/content/documents-radio-spectrum-policy#2011_SRR_24ghz
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