

Dear Sir/Madame,

The RSPG has asked input and views from stakeholders on the content of the draft opinion on addressing the growing spectrum demand for wireless broadband. In the opinion document RSPG13-511 Rev 1 a set of candidate frequency bands were proposed for allocation to wireless broadband communication. One of these frequency bands is the 1375-1400 MHz band. Currently, and also for the near future, this band is allocated to the primary radiolocation service. This service is closely related to safety on national and European level.

In addition to the current applications of primary radiolocation, NATO intends to set up a Europe-wide missile defence system in the near future.

The implementation of this missile defence system will for a large portion be based on land-based and sea-based primary radiolocation systems in the L-band. Allocation of the 1375-1400 MHz band to wireless broadband use would cause an unacceptable limitation in performance for such radiolocation systems. We identified a set of remarks on the pros and cons as summarised in annex 2 of the draft opinion document RSPG13-511 Rev 1.

Remarks on pro's off WBB in 1375-1400 MHz band:

For most countries, the current use of this band by mobile, ENG/OB is limited. Allocation to WBB will change this situation dramatically.

First of all, Primary radiolocation systems needs a clear window in spectrum and time to listen, not to shout, to allow detection of small non-cooperative objects.

→ The use, need, efficiency and effectiveness of any frequency band for primary radiolocation service can not be determined by measuring the mean transmitted RF power.

Cons of WBB in 1375-1400MHz band:

- For proper operation, primary radiolocation systems require a silent window in the spectrum to be able to detect weak return signals.
- Recent developments on drones, stealthy airplanes and (ballistic) missiles further increases the need for sufficient silent spectrum.
- As shown by several studies [1], Spectrum sharing between WBB and primary radiolocation WILL cause unacceptable performance reduction to the latter service.
- Even in case of channel separation mutual interference between the radiolocation service and WBB will occur.
- For optimal operation, military services for primary radiolocation require an operational bandwidth of 15-20%. The frequency variation is used for classification of targets, for robustness against hostile jammers, and interoperability with other primary radiolocation systems in the same band. The radar performance will degrade when sharing (parts of) its operational band with other radio transmitters.
- Performance of other radio receivers will degrade when sharing (parts of) their operational band with high peak power transmitters of primary radiolocation systems.

- Change of operational band for primary radiolocation systems (e.g. from L to S band) neglects the use of L band for long range air surveillance.
- For the reasons summarised above also future application of primary radiolocation for the NATO ballistic missile defence programme would be seriously limited by allocation of WBB to the 1374-1400 MHz band.
- It is expected that application of primary radiolocation for the NATO ballistic missile defence programme will result in an increase in radiolocation systems for this service over a large part of the European continent.

Reference:

[1] Effects of RF interference on radar receivers: NTIA Report TR-06-444:
<http://webcache.googleusercontent.com/search?q=cache:5fnxV-HLIWIJ:www.its.bldrdoc.gov/publications/2481.aspx+NTIA+Report+TR-06-444&cd=1&hl=nl&ct=clnk&gl=nl>

With kind regards,

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