

Consultation title	Fixed wireless spectrum strategy: Consultation on proposed next steps to enable future uses of fixed wireless links
Organisation name	SIAE Microelettronica SpA

Response

<p>Question 1: Do you agree that we have identified the key drivers likely to have a significant impact on the spectrum demand for fixed wireless links? If not, please provide further detail and evidence to support your answer.</p> <p>Do you have other comments to make/points to raise with us on these issues?</p>	<p>NOT CONFIDENTIAL</p> <p>We agree with your general overview.</p>
<p>Question 2: Do you agree with our conclusions on spectrum implications and our proposed strategy/next steps for each band?</p> <p>Are there any other considerations of significance that you feel we should have included or do you have other comments to make/points to raise with us on these issues?</p> <p>Please provide as much detail as possible to support your answer.</p>	<p>NOT CONFIDENTIAL</p> <p>We agree with your general overview. Please refer to our comments at questions 4 and 8.</p> <p>We have today a worldwide growing trend in E band use. Please, take care of this band to prevent any new service that could affect the use from fixed service.</p>
<p>Question 3: Do you agree with the items we have identified for further consideration? Are there any other significant areas that you believe should be included? If so, please include all necessary evidence to support your view.</p>	<p>[redacted]</p>
<p>Question 4: Do you agree with our proposal to change the authorisation regime in the 64 – 66 GHz band to licence exempt to create a common authorisation approach across the 57 – 66 GHz band for fixed outdoor installation use and that this would be a benefit to UK citizens and consumers?</p>	<p>[redacted]</p>
<p>Question 5:</p> <p>a) Do you agree with the proposed new technical conditions in Table 6 to facilitate equipment intended for fixed outdoor</p>	<p>[redacted]</p>

<p>installation in the 57 – 66 GHz band? Please provide evidenced views /alternatives if you disagree with our proposal. Do you consider any additional conditions should be mandated as part of a licence exemption to manage the interference environment?</p> <p>b) Do you agree with our assessment that the proposed changes in technical conditions will have minimal impact on existing use and are appropriate to manage the future outdoor interference environment?</p> <p>c) Are there likely to be any fixed outdoor installation use cases that will require operation at eirp levels above 55 dBm? If so, please provide evidence of how the coexistence with the different outdoor users could be ensured?</p>	
<p>Question 6:</p> <p>a) What are the use cases and technical parameters envisaged for the 66 - 71 GHz band? Are they likely to be similar to those in the 57 – 66 GHz band? If so, what are your views on extending the same or similar technical conditions as described above for the 57 - 66 GHz band (both existing wideband data transmission (SRD) and new fixed outdoor technical conditions) to the 66 – 71 GHz band to facilitate both fixed and mobile use cases.</p> <p>b) Please provide your view on whether the technical parameters of wideband data transmission (SRD) as shown in Figure 4 are suitable to facilitate mobile/portable equipment including use outdoor? If you do not consider they are suitable, what alternative technical parameters do you think should be considered?</p> <p>Please provide as much detail to your answer as possible and your considerations on the co-existence aspects.</p>	<p style="text-align: center;">NOT CONFIDENTIAL</p> <p>n/a</p>
<p>Question 7: Do you agree that there is a continued need for future low capacity fixed link applications?</p> <p>If so, please provide information to support</p>	<p style="text-align: center;">NOT CONFIDENTIAL</p> <p>Our reference market is based on mobile backhaul and Industrial, Public and Safety applications. The requirements of low capacity</p>

<p>your view and what alternatives you would consider appropriate should the upper 1.4 GHz band no longer be available.</p> <p>Please provide clear evidence to support the reasons for your views.</p>	<p>radio links are marginal and the minimum channel size, in case of microwave radio links, is today 3.5 MHz.</p> <p>Use of low capacity links at 6 GHz, or generally up to 11 GHz, could fit a market overlap with current mobile backhaul equipment. Obviously the minimum information rate, in order of 10 Mbit/s, allows migrating current narrowband application to IP platforms.</p> <p>The major benefits are a common technology currently based on large volumes.</p> <p>If an application is requiring hundreds of kbit/s, today a point-to-multipoint system is capable to offer similar capacities below 1 GHz, enabling nLoS links.</p>
<p>Question 8:</p> <p>Do you consider there is merit in considering making the bands 52 GHz and 55 GHz available under alternative authorisation approach(es) such as block assignment? If so, what would you consider to be the best approach(es)? Please provide detailed views to support your response.</p>	<p style="text-align: center;">NOT CONFIDENTIAL</p> <p>From a manufacturer point of view, we recommend to take under consideration the ERC Recommendation 12-11 (2015) Annex 3.</p> <p>The proposed pairing of the two bands permit to deploy a multi Gbit/s (from 2 Gbit/s up to 5 Gbit/s) radio link.</p> <p>An availability of 14 channels, each of 112 MHz channel size, should be a good resource to deploy multi band links with an aggregate capacity larger than 2.5 Gbit/s.</p> <p>The carrier frequency is also suitable to employ dual band antennas where the lower band is up to 15 GHz.</p> <p>A block assignment should be the preferable way to manage these bands.</p>
<p>Question 9:</p> <p>Do you think we should review our authorisation approach to any other band used for fixed wireless links?</p>	<p style="text-align: center;">NOT CONFIDENTIAL</p> <p>As suggested in Q8 and Q10.</p>
<p>Question 10:</p> <p>a) How do you envisage W band and D band will be used for mobile backhaul provision and the likely timescales? Please provide as much detail as possible on deployment scenarios and whether this would include indoor use.</p>	<p style="text-align: center;">NOT CONFIDENTIAL</p> <p>a) W band is quite similar, from a technological point of view, to E band. Due to current available spectrum, it will be useful as alternative band instead of E band where congested to carry a maximum of 20</p>

Are there any other types of applications (other than mobile backhaul) that could be suited for these bands?

b) What are your views on the most appropriate authorisation approach for the W and D bands? Please provide as much detail and technical evidence as possible in your answer.

Gbit/s.

D band requires an ongoing development of technology for active components and antenna systems. The time scale of 5-10 years seems reasonable to plan the introduction of equipment in this band. Key points are:

- Frequency allocation method
- Optical line interface cost / power consumption
- Application (inter site connection / small cell backhaul)

b) Use of W band should be particularly helpful in case of unavailability of E band resources; the license should be based on per area blocks.

D band should be preferably allocated only to deploy multi 10 Gbit/s capacity links. License should also be based on per area blocks

Question 11: Which capacity enhancing technique(s) are you using or planning to use? Please provide detail / evidence and clearly explain why and how each technique is planned to be used and if you consider there are any other aspects that should be considered.

[redacted]