

## Summary of decisions for the allocation of 24-30 GHz: spectrum for satellite and mobile

Subject (ordered by frequency)	Decision
<b>23.6 -24.0 GHz band</b>	
<p>Protections for Earth Exploration Satellite Services (passive) (EESS) in 23.6 -24.0 GHz band</p>	<ul style="list-style-type: none"> <li>• Implement the stage two limits from International Telecommunications Union (ITU) Radio Regulation, Resolution 750 (limits applying post 1 September 2027) for all Mobile and Fixed Wireless Access stations operating in the 24.25 -27.5 GHz frequency band in the licensing process and where applicable, in the product supply regime. Upon making spectrum available, RSM will provide information the importance and purpose of the limits within relevant documentation.</li> <li>• Maintain existing provisions for SRD devices and ISM applications in the 24.0 -24.25 GHz frequency band. No power increases for 24.0 -24.25 GHz without supporting analysis on the protection of passive services in the adjacent 23.6 -24.0 GHz.</li> </ul>
<p>Protection for Radio Astronomy Service (RAS) stations in the 23.6 – 24.0 GHz band</p>	<ul style="list-style-type: none"> <li>• The indicative list Radio Astronomy Service sites stations at Warkworth, Orepuki and Otahu Flat / Waiau Valley and their locations in the Table 3 of the 2025 Technical discussion document are confirmed for further technical analysis for receive protection licensing in the 23.6 -24.0 GHz frequency range. It is noted that Otahu Flat / Waiau Valley coordinates are indicative and there may be small variation within the valley.</li> <li>• The Radio Astronomy community are invited to undertake the technical work to determine the protection required and the resulting exclusion / coordination zones where there will be limitations on Mobile / Fixed Wireless Access sites using the framework under work starting with section 1.2.3. Once the Radio Astronomy community have completed this work RSM will review this and the possibility of implementing these protections in a licensing regime (e.g. based on receive protection licensing).</li> </ul>
<b>24.25 – 27.5 GHz band (26 GHz)</b>	
<p>Mobile / Fixed Wireless Access in the 24.25 – 27.5 GHz band (26 GHz)</p>	<ul style="list-style-type: none"> <li>• The assignment process for Mobile / Fixed Wireless Access in the 24.25 -27.5 GHz is aimed for the 2028 -2030 period with planning for this happening ahead of this time.</li> <li>• The assignment process will not be on a national basis and national management rights are ruled out as this would lead to an inefficient use of spectrum (i.e. nationwide deployment is highly unlikely) and is not in line with international best practice in these frequency ranges. The assignment process will look to provide access to spectrum for single users for portions of the frequency range in a set of areas of the country, based on the statistics New Zealand Urban areas. Outside of these areas, first in time or individual station licensing may be implemented.</li> <li>• The spectrum estimates provided in the consultation with an upper limit of 800 MHz per operator will inform an assignment process and the setting of acquisition limits.</li> </ul>

	<ul style="list-style-type: none"> <li>• The detailed technical parameters, including synchronisation of frame structure and pointing of the base station antennas and technical limits between areas, will be developed prior.</li> <li>• No licensing of Mobile / Fixed Wireless Access stations will occur before the 2028-2030 assignment date except under strict criteria for genuine tests. Any tests will be required to be specific and for a purpose, non-commercial with no customers, one off and time bound. The Government Policy Statement will continue to apply which reserves these frequencies.</li> </ul>
EESS and SRS (space to Earth) in the 25.5 - 27.0 GHz band (26 GHz)	<ul style="list-style-type: none"> <li>• The indicative list EESS and SRS Earth stations at the sites listed in table 6 of the 2025 discussion document being Orepuki, Awarua with the addition of Warkworth and their locations are indicated for further technical analysis for receive protection in the 25.5 -27 GHz frequency range.</li> <li>• The EESS and SRS (space to Earth) Earth station proponents are invited to undertake the technical work to determine the protection required and the resulting coordination zones and the feasibility of each of the proposed sites.</li> </ul>
Fixed Satellite Service (FSS) (Earth to space) in the 24.65 -25.25 and 27.0 -27.5 GHz band (26 GHz)	<ul style="list-style-type: none"> <li>• The 24.65 -25.25 and 27.0 -27.5 GHz frequency bands will not be made available for Fixed Satellite Service (Earth to space) Earth stations.</li> </ul>
Use of short-range devices in 26 GHz	<ul style="list-style-type: none"> <li>• General user radio licences (GURLs) may be updated from time to time to align with international short-range device and ultra-wide band device provisions when those notices are reviewed.</li> </ul>
<b>27.5 -28.35 GHz (lower 28 GHz)</b>	
Mobile services and Fixed Wireless Access in 27.5 -28.35 GHz (lower 28 GHz)	<ul style="list-style-type: none"> <li>• Mobile / Fixed wireless access will be permitted and licensed only in urban areas (see definitions in the consultation) with an assignment process in 2028 - 2030 in line with 26 GHz timeframes. Outside urban areas Mobile / Fixed wireless will not be permitted or licensed.</li> <li>• Regarding the limits to protect mobile from FSS Earth stations and the boundaries of the urban areas, MBIE will take the suggestion from satellite operators to adopt -91 dBW/m<sup>2</sup>/MHz (based on Australian limits).</li> <li>• Licensing will be done under the radio licensing regime.</li> </ul>
FSS Earth station/gateways in 27.5 -28.35 GHz (lower 28 GHz)	<ul style="list-style-type: none"> <li>• Licensing of new FSS gateways outside of the urban areas defined in option 1 – Geography based by area type of the consultation and existing FSS gateways inside the urban areas will be able to continue and expand.</li> <li>• A limited, time bound (application window) hybrid approach between Option 1 and Option 2 for a very limited number of new Gateway / Feeder Link Earth stations in urban areas where these have advanced / preexisting plans.</li> </ul>

	<ul style="list-style-type: none"> <li>Regarding the limits to protect mobile from FSS Earth stations and the boundaries of the urban areas, MBIE will take the suggestion from satellite operators to adopt -91 dBW/m<sup>2</sup>/MHz (based on Australian limits) for new Earth stations.</li> <li>Licensing of FSS in will be done under the radio licensing regime.</li> </ul>
FSS user terminals at specific locations and within areas in 27.5 -28.35 GHz (lower 28 GHz)	<ul style="list-style-type: none"> <li>Individual FSS user terminals (not moving) may be licensed for specific locations outside of the urban areas defined in Option 1 Geography based by area type of the consultation.</li> <li>Widely deployed FSS user terminals (not moving) in discretely defined areas (e.g. based on Territorial Local Authorities) for general consumers outside of the urban areas defined in option 1 may be considered in the future. This is subject to appropriate measures to ensure that these are not taken into / are operated in urban areas and technical limits are met (e.g. geofencing).</li> <li>Regarding the limits to protect mobile from FSS Earth stations and the boundaries of the urban areas, MBIE will take the suggestion from satellite operators to adopt -91 dBW/m<sup>2</sup>/MHz (based on Australian limits).</li> <li>Licensing of FSS in will be done under radio licensing.</li> </ul>
FSS Earth stations in motion (ESIMs) in 27.5 -28.35 GHz (lower 28 GHz)	<ul style="list-style-type: none"> <li>Land Earth stations in motion (L-ESIM) will not be permitted to operate in the lower 28 GHz frequency band as there is a risk that these will be used or taken into urban areas preserved for Mobile / Fixed Wireless Access.</li> <li>Aeronautical Earth stations in motion (A-ESIM) and Maritime Earth stations in motion (M-ESIM) will be allowed applying the limits from International Telecommunications Union (ITU) Radio Regulations, Resolutions 123 and 169. as per the consultation as these are sufficient to protect Mobile / Fixed Wireless Access. For A-ESIM this will be based on the altitude above 3000 m and a Power Flux Density (PFD) limit. For M-ESIM this will be based on 70 km from the coast and Effective Isotropic Radiated Power (EIRP) spectral density limit. These limits are required to protect Mobile / Fixed Wireless Access in urban areas.</li> </ul>
<b>28.35 -29.5 GHz (upper 28 GHz)</b>	
FSS Earth station/gateways in 28.35 -29.5 GHz (upper 28 GHz).	<ul style="list-style-type: none"> <li>The 28.35 -29.5 GHz band will be available for FSS and will not be available for mobile.</li> <li>Satellite operators can apply for FSS Earth stations licences anywhere in the country under licensing rules and technical conditions.</li> <li>Regarding technical conditions, the proposals in the consultation will be implemented regarding the minimum elevation restrictions we will main a minimum elevation of 20 degrees will be set as a baseline, but some flexibility will be provided for the different sub bands, particularly where a measured antenna pattern is provided that is better than the ITU antenna masks.</li> </ul>
FSS user terminals at specific locations and within an area in 28.5 -29.5 GHz (lower 28 GHz)	<ul style="list-style-type: none"> <li>RSM will look to license user terminals in in this band with a more flexible blanket 'All New Zealand' approach rather than by Territorial Local Authority. MBIE is unlikely to use GURL approaches for terminals in this band.</li> </ul>

<p>Earth stations in motion (ESIMs) in 28.35 - 29.5 GHz (upper 28 GHz)</p>	<ul style="list-style-type: none"> <li>• RSM plan to implement a licensing regime for L-ESIM in line with the proposals in the consultation.</li> <li>• RSM plan to implement a licensing regime for A-ESIM and M-ESIM in line with ITU Radio Regulations, Resolutions 123 and 169. RSM may consider technical studies on relaxations to these limits or for alternative limits provided they protect mobile / FWA in the adjacent band.</li> </ul>
<p><b>Other bands and issues</b></p>	
<p>17.7 -20.2 GHz (space to Earth) and 29.5 - 30 GHz (Earth to space) frequency bands</p>	<ul style="list-style-type: none"> <li>• The 17.7–20.2 GHz frequency band will open for receive protection licences for stations at specific locations under an individual receive protection licence under the existing FSS Earth station licensing regime in line with the consultation.</li> <li>• RSM will align the provisions for 29.5 -30 GHz to be consistent with 27.5 -28.35 GHz and 28.35 -29.5 GHz as appropriate and update its documentation.</li> </ul>
<p>Satellite coordination issues and Non-Geostationary and Geostationary sharing</p>	<ul style="list-style-type: none"> <li>• There will be no national / domestic measures or rules for satellite intra system interference (satellite network to satellite network) as requested by some operators. This will continue to be addressed by the ITU satellite coordination process and the ITU filing administrations.</li> <li>• No national / domestic regime to be implemented for verifying Equivalent Power Flux Density Limit (EPFD limits) and Article 22 limits for licence applications for Earth stations.</li> </ul>
<p>Body scanners for security screening</p>	<ul style="list-style-type: none"> <li>• RSM will develop an appropriate licensing framework for body scanners in the 24.25 -30 GHz and 69.8 -80.5 frequency ranges strictly limited to indoor use government use only. The exact licensing framework is still to be determined.</li> <li>• At an appropriate time, RSM may consider body scanners in additional frequency ranges including the 12 -40 GHz and 20 – 40 GHz frequency bands currently under study / consideration internationally and studies and evidence on interference risk along with appropriate technical conditions may be needed. RSM note that international work outlines the exclusion of 23.6 -24.0 GHz and 31.3 -31.5 GHz frequency bands as these are ‘all emissions prohibited bands.</li> <li>• Products also need to meet the product supply regime which may include applicable standards for body scanners (e.g. EN 303 940 - in development or a variant).</li> </ul>
<p>Short-range devices and Ultra-wideband devices</p>	<ul style="list-style-type: none"> <li>• GURLs may be updated from time to time to align with international short-range device and ultra-wideband device provisions when those notices are reviewed.</li> </ul>