



Your reference

Our reference

Date

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28. mai 2020

Radio Spectrum Management Policy and Planning
Attn: 1710-2300 MHz Discussion document
Ministry of Business, Innovation and Employment
PO Box 2847
WELLINGTON 6140
New Zealand

KSAT GLOBAL answer to 1710-2300 MHz Discussion document

KSAT Global AS, a company owned by Kongsberg Satellite Services AS in Norway, is referring to the “Re-planning options for frequency bands within 1710-2300 MHz, Discussion document”, March 2020 and the invitation to comment on the content of this document.

KSAT Global is operating a Satellite Ground Station in New Zealand, located at the Awarua Satellite Ground Station facility. The KSAT station is a part of the KSAT global network of stations supporting low earth orbiting satellites.

The KSAT network is a standardized network of antennas, spread all around the globe, that support S-band uplink (2025 – 2120 MHz Earth-to-Space) and S-band downlink (2200 – 2300 MHz Space-to-Earth). Satellite communication does not usually have any handshake mechanisms to check for lost data packets or retransmit lost data packets. This means that interference on the frequency band will cause losses of data and in worst case have severe impacts on critical LEO satellite operations such as LEOP (Launch and Early Orbit Phase) and critical orbit maneuvers.

The proposed re-planning of frequency allocations in New Zealand is diverging from the global guidelines for satellite communications and would therefore affect the reliability of the KSAT ground station in New Zealand.

KSAT Global or customers cannot change the satellite frequency for different locations, which may result in that satellite operators would not be able to use the New Zealand station to support their satellites, due to the potential interference.

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Question 1:

Do you agree with the RSM proposal to use the 1800 MHz duplex gap (1785- 1805 MHz) for radio microphones? If not, what is a better use of this block of spectrum?

Answer:

KSAT Global has no comments.

Question 2:

What size guard band would be appropriate for achieving compatibility between radio microphone use and mobile networks operating below 1785 MHz and above 1805 MHz?

Answer:

KSAT Global has no comments.

Question 3:

Do you agree with RSM's proposal to postpone a decision on the Unpaired 2000 MHz band (2100-2025 MHz) until there is clarity on international harmonised use for the band? If not, what is the best value use for this band?

Answer:

KSAT Global has no comments.

Question 4:

Do you agree with RSM's proposal to use the lower portions of the Paired 2200 MHz band (2025-2081.5 MHz and 2200-2256.5 MHz) available for fixed links to enable clearing of the 'L' and 'LL' bands (1427-1524 MHz)?

Answer:

KSAT Global does not agree with the proposal. Many satellites are using these frequencies for uplink and downlink and if these bands should be used for fixed links in the area or the surroundings of the satellite ground station, the station operations would be unreliable and would not be useful for these satellites.

Question 5:

Do you agree that the proposed channel plan for fixed links in Figure 1 would be adequate to transition those affected licences in 'L' and 'LL' fixed link bands? If not, why not?

Answer:

KSAT Global has no comments.

Question 6:

Do you agree that the proposed channel plan for fixed links could also accommodate short-term licences that may or may not align with the channel raster on a case-by-case basis and are subject to coordination with fixed links for TV outside broadcasts of major events and for space operation?

Answer:

KSAT Global has no comments.

Question 7:

Are there better uses for the lower portions of spectrum in the Paired 2200 MHz band? If so, what?

Answer:

Due to the global use of these frequencies in satellite communication with low earth orbiting satellites, KSAT Global strongly recommends that these frequencies should be reserved for space operations. The entire band from 2025 – 2120 MHz should be used for uplink (Earth-to-Space), and the entire band from 2200 – 2300 MHz should be used for downlink (Space-to-Earth).

Question 8:

Do you agree with RSM's proposal to reserve 2081.5-2110 MHz and 2256.5-2290 MHz exclusively for space operation in New Zealand? If not, why not?

Answer:

KSAT Global strong opinion is that the entire band 2025-2120 shall be reserved for earth-to-space operations, and that the entire band 2200-2300 shall be reserved for space-to-earth operations.

Question 9:

Do you agree that the reserved spectrum would be adequate to support the growing demand in space activities?

Answer:

KSAT Global need to be able to use the whole frequency band 2025 – 2110 MHz for uplink, and 2200 – 2300 for downlink, as the satellites operate in a global market on these frequencies.

KSAT Global strong opinion is that the entire band 2025-2120 shall be reserved for earth-to-space operations, and that the entire band 2200-2300 shall be reserved for space-to-earth operations.

Question 10:

Is there a better use for the spectrum between 2081.5-2110 MHz and 2256.5-2290 MHz? If so, what?

Answer:

See answer to Question 7. KSAT Global recommends that these frequencies should be reserved for space operations.

Question 11:

Do you agree with the proposal to use 10 MHz guard bands in the frequency range 2290-2300 MHz?

Answer:

See answer to Question 7. KSAT Global recommends that these frequencies should be reserved for space operations

Question 12:

What is the best value use for the Paired 2100 MHz band expansion?

Answer:

See answer to Question 7. KSAT Global recommends that these frequencies should be reserved for space operations

Kind regards,
KSAT Global AS



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