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RADIO SPECTRUM POLICY

USE OF FREQUENCY BAND 4.4-5.0 GHZ

1. Policy.

Apparatus licences will be issued on application in accordance with the following band plan and criteria

2. Specific Criteria.

RF channel arrangements

- The channels are arranged in accordance with recommendation ITU-R F.1099-2, Annex 1.
- Transmit/receive spacing : 300 MHz
- Channel bandwidth : 40 MHz

Channel number	Frequency	
	Lower part of band	Upper part of band
1	4430.00	4730.00
2	4470.00	4770.00
3	4510.00	4810.00
4	4550.00	4850.00
5	4590.00	4890.00
6	4630.00	4930.00
7	4670.00	4970.00

- Polarisation of antennas shall be as follows:

• 1 3 5 7 V	• 1' 3' 5' 7' H
• 2 4 6 H	• 2' 4' 6' V

- Where less than half of the channels are initially planned or required, the go and return paired assignments may use the same polarisation. In this case, only the even numbered or odd numbered channels are utilised.
- Notional antenna : 3.0 m high performance parabolic dish. This is the minimum accepted antenna to ensure maximum reusability of the channels in this band.
- Minimum path length : 30 km

3. General Technical Considerations.

- 3.1 The band is designed for use for high capacity medium to long haul radio relay systems. As the modulation complexity will have to be 256QAM or 512QAM/TCM to achieve the necessary throughput, there will generally be a requirement for x+1 configurations, to provide a frequency diverse protection channel. Where this is the case, channel 4 should where possible be used as the protection channel.
- 3.2 Where it is envisaged that a system will ultimately expand to occupy the whole band, initial assignments should be made on channels 2-6, with 1 and 7 being assigned last.

4. Background.

With the increasing demands on spectrum by the mobile services, especially below 3 GHz, there is a requirement for replacement spectrum for displaced fixed services from in particular the 1900-2300 MHz band. The 4.4-5.0 GHz band is recognised internationally as a high capacity band, and channel plans are available in ITU-R recommendations which recognise this use.

Approved By:

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