

Document POLDOC	Section Spectrum Band Plan	Number 007	Issue 1
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RADIO SPECTRUM POLICY

EE Band 25 kHz Fixed Service (FS) Channels

1. Purpose

Developments in technology have resulted in a requirement to make spectrum available in this frequency range for high efficiency digital services using advanced modulation methods, such as 16-QAM. Such applications require a 25 kHz channel to allow the transmission of a 64 kb/s data stream, or a voice circuit in conjunction with a multiplicity of lower data rate channels.

2. Policy

From the date of issue of this POLDOC applications to use 25 kHz channels in the frequency ranges 162.20625 to 162.45625 MHz, paired with 166.80625 to 167.05625 MHz, and 165.45625 to 165.70625 MHz, paired with 170.05625 to 170.30625 MHz, will be accepted. Applications for 12.5 kHz channels in the same spectrum will continue to be accepted.

3. Specific Criteria

Channel frequencies will be selected from the tables in annexes 1 or 2.

Apparatus that has been approved to the standard RFS36 or AS/NZ 4768 must be used.

The 25 kHz channels will only be made available for use by high efficiency digital services using at least a 16-state modulation scheme, such as 16-QAM or equivalent.

Single-channel voice or single-low-data-rate digital transmissions must continue to use the 12.5 kHz EE band channels.

4. General Technical Considerations

There is only a small amount of spectrum that can be made available for fixed services in this frequency range, so it needs to be reserved for applications involving high data rate digital services over relatively obstructed paths, or other situations that require a similarly high level of link availability. High gain antennas should be used, to help maximize re-use of the channels.

5. General

The spectrum being made available is that already used by fixed services for single channel purposes over difficult paths (EE band channels EE1 to EE20, and EE261 to EE280). A 25 kHz overlay has been implemented for the new EEW (EE wide) channels whereby each EEW channel fully overlaps two 12.5 kHz EE channels. See the overlay diagram in annex 2. While this is not in accordance with some spectrum planning principles, it reduces the work required to coordinate new EEW channels in an area where narrow band EE channels are also used.

Interleaving channels so that the centre frequency of an EEW channel aligns with the centre frequency of an EE channel requires additional work in licensing, as three overlapping EE channels have to be taken into consideration. There is no intention to impinge upon the Mobile Service (MS) 12.5 kHz channels in implementing this 25 kHz fixed service plan, and the 12.5 kHz FS channels will continue to be available.

Verified by:

Approved By:

Manager, Spectrum Planning

Manager, Operational Policy

6. Annex 1

Channel plan for the Fixed EE band, channels EE1-20 (162.20625 – 162.45625 MHz) paired with channels EE1-20# (166.80625 – 167.05625 MHz) - Lower block

Channel	Frequency	Associated frequency
EE1	162.21250	166.81250
EE2	162.22500	166.82500
EE3	162.23750	166.83750
EE4	162.25000	166.85000
EE5	162.26250	166.86250
EE6	162.27500	166.87500
EE7	162.28750	166.88750
EE8	162.30000	166.90000
EE9	162.31250	166.91250
EE10	162.32500	166.92500
EE11	162.33750	166.93750
EE12	162.35000	166.95000
EE13	162.36250	166.96250
EE14	162.37500	166.97500
EE15	162.38750	166.98750
EE16	162.40000	167.00000
EE17	162.41250	167.01250
EE18	162.42500	167.02500
EE19	162.43750	167.03750
EE20	162.45000	167.05000

Channel plan for the Fixed EE band, channels EE261-280 (165.45625 – 165.70625 MHz) paired with EE261-280# (170.05625 – 170.30625 MHz), - Upper block

Channel	Frequency	Associated frequency
EE261	165.46250	170.06250
EE262	165.47500	170.07500
EE263	165.48750	170.08750
EE264	165.50000	170.10000
EE265	165.51250	170.11250
EE266	165.52500	170.12500
EE267	165.53750	170.13750
EE268	165.55000	170.15000
EE269	165.56250	170.16250
EE270	165.57500	170.17500
EE271	165.58750	170.18750
EE272	165.60000	170.20000
EE273	165.61250	170.21250
EE274	165.62500	170.22500
EE275	165.63750	170.23750
EE276	165.65000	170.25000
EE277	165.66250	170.26250
EE278	165.67500	170.27500
EE279	165.68750	170.28750
EE280	165.70000	170.30000

7. Annex 2

Channel plan for the Fixed EE band channels EEW1-10 (162.20625 – 162.45625 MHz) paired with 166.80625 – 167.05625 MHz) - Lower block

Transmit – receive spacing: 4.6 MHz

Channel	Frequency	Associated Frequency
EEW1	162.21875	166.81875
EEW2	162.24375	166.84375
EEW3	162.26875	166.86875
EEW4	162.29375	166.89375
EEW5	162.31875	166.91875
EEW6	162.34375	166.94375
EEW7	162.36875	166.96875
EEW8	162.39375	166.99375
EEW9	162.41875	167.01875
EEW10	162.44375	167.04375

Channel plan for the Fixed EE band, channels EEW261-270 (165.45625 – 165.70625 MHz paired with 170.05625 – 170.30625 MHz)

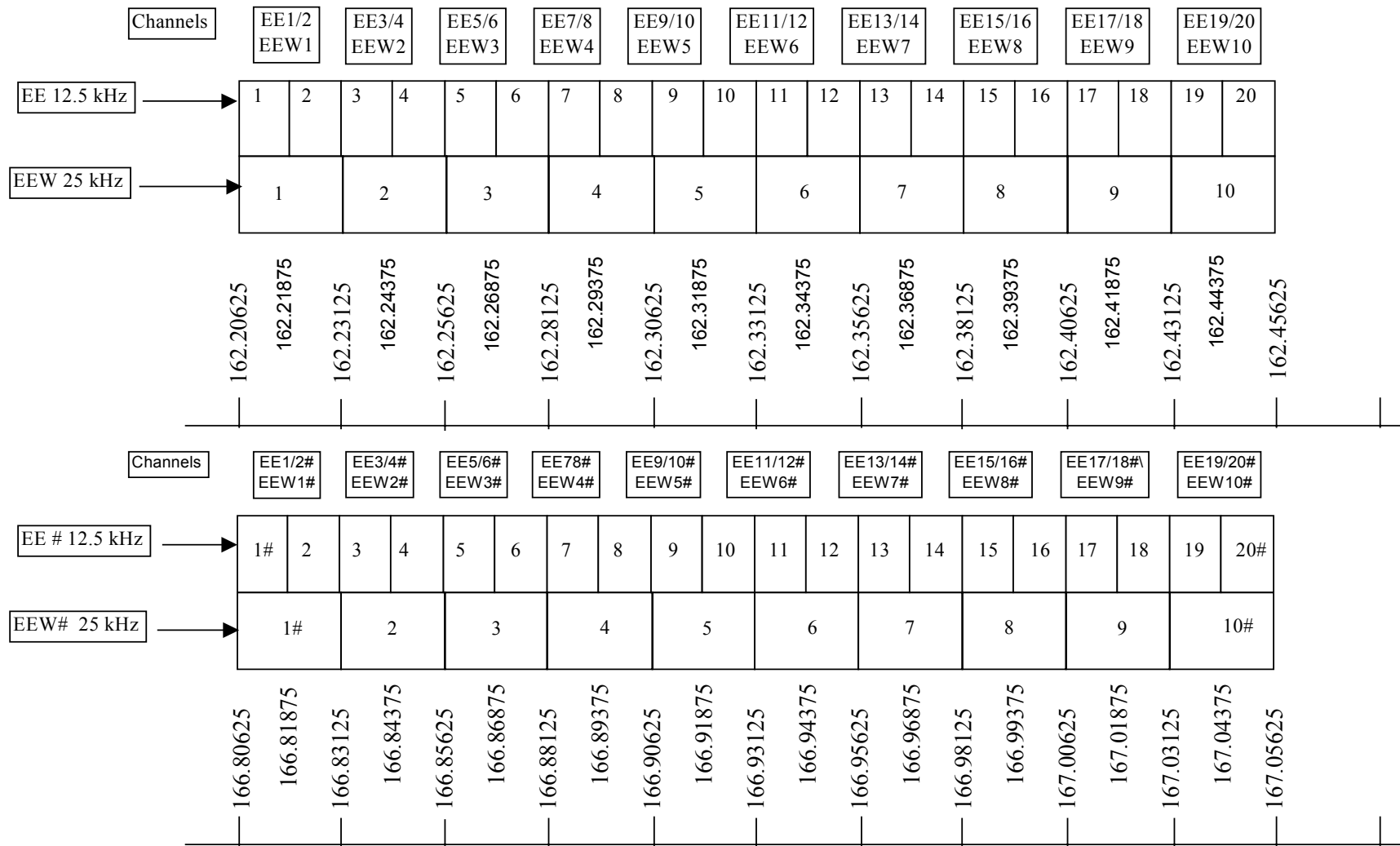
Upper block

Transmit – receive spacing: 4.6 MHz

Channel	Frequency	Associated Frequency
EEW261	165.46875	170.06875
EEW262	165.49375	170.09375
EEW263	165.51875	170.11875
EEW264	165.54375	170.14375
EEW265	165.56875	170.16875
EEW266	165.59375	170.19375
EEW267	165.61875	170.21875
EEW268	165.64375	170.24375
EEW269	165.66875	170.26875
EEW270	165.69375	170.29375

8. Annex 3

Band plot for EEW channels, 25 kHz spacing - Lower block



Band plot for EE and EEW channels, 12.5 and 25 kHz spacing - Upper block

