

What's happening in the fixed service bands?

800 MHz low capacity links – a radical new approach to “planning”

- Part of the 800/900 MHz replanning process ([the long term strategy](#))
 - See p18 for band configuration – new and old
 - See the notes following - about what has changed

- The RALIs
 - [FX11](#) (Of historical interest – but accommodates STLs in top 3 MHz until June 2019)

 - [FX22](#)
 - Recently updated to includes two-frequency planning
 - Addresses single frequency also
 - Two-frequency “plan” allows random channel arrangements based on a 12.5 kHz raster (See #6.2)
 - Plan combines Single Channel and Low Cap within a single plan – they were previously separated. Hence expect site-sense problems!

 - [Embargo 64](#) - Essentially gives priority for existing services to re-locate to new arrangement. But we have already had dispensations for new links in remote areas.

Below 6 GHz – a vanishing resource

- An [overview of the bands](#) in question (2009)
Now effectively invaded and over-run by mobile services.
- [RALI FX3 Appendix 1](#)
- 1.5 GHz
 - [Embargo 70](#)
 - [Embargo areas](#)
- 1.8 GHz
 - Effectively embargoed Aust. wide for fixed services ([Embargo 62](#))
- 2 GHz
 - [2.1 GHz](#) (the original 29 MHz bandwidth plan)
 - [2.2 GHz](#) (a more recent, overlay plan for 14 MHz channels)
Some options remain in Rural/remote areas
The RALI shows areas under Embargo 23 (inc. circle around Perth)
- 3.8 GHz
 - Originally 7 channels each of 2 x 40 MHz bandwidth
 - Bottom 3 lower sub-band embargoed in 2005 ([Embargo 42](#))
 - Ch. 4 & 5 embargoed just last year ([Embargo 73](#))
 - This leaves only Ch. 6 & 7 assignable.

In summary there are very few opportunities left in any of these bands.

- Low certainty of tenure even for existing services
- Expect difficulties and delays, (and possibly additional licensing costs) if trying to do anything in these bands.

E-band - its catching on, but what's so special here?

- E-Band spectrum (71–76 GHz, 81–86 GHz)
- also V-band spectrum (57–66 GHz)

Also known as millimetre band

[RALI FX20](#) describes “a light touch” licensing arrangement for these bands. Very different to the regime in the lower bands.

Key features:

- Self-coordination
- No defined [channel plans](#) – anything goes!
 - FDD (usually a 10 GHz split in E-band)
 - TDD permitted in all bands
 - Co-ordination can be done by anyone – no AP “certification” required
 - But does require an entry into SPECTRA – (which does need an AP!)
 - No interference / no protection
 - Equipment and antennas expected to be to ETSI or FCC standards
- Seems to be an expectation that channels will be assigned by doing on-site monitoring to identify existing services.
- Over 1,0000 Tx records – so ~500 two-way links (all but a few are E-Band)

Our observations:

- In attempting to facilitate the ready deployment of these services the ACMA has achieved quite the opposite effect
- A misconception about propagation characteristic (pencil beam) hence under-estimation of need for coordination
- Mixed site sense inherent when TDD and FDD share the same site
- Situation likely to get worse as licence numbers increase
- Reminiscent of the mistakes that were made in the early days of the 18 & 23 GHz bands. (no plans – anything goes!)
- Would have been much easier just to use the regular licensing arrangements of RALI FX3

Embargo 72

- What is it? -
An Embargo to protect future planning options for a “teleport” for satellite communications services
- [Where is this teleport?](#)
Not sure yet – so let’s embargo a few possibilities
- What fixed service bands does it affect?
[See summary](#)
- [What to do about it?](#)
 - An analysis may be undertaken to assesses the likely impact of new links within the defined co-ordination areas (within 100 or 150 km of nominated locations);
 - If the analysis is successful, can apply for a dispensation to licence the link within the co-ordination area. Expectation is that dispensation will be granted, with no additional licence conditions attached;
 - If the analysis fails or is not performed an exemption may still be granted provided the licensee agrees to place special conditions on the licence, effectively a no interference / no protection condition with respect to any new earth station in the area.

Our observation:

The analysis can be done easily with the appropriate software, and in most cases is likely to be successful.