



The bridge to possible

The Need for 6GHz

Connecting Our Digital Future

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धन्यवाद

நன்றி

Thank You

शुक्र

Tuhāḍā
dhanavāda

ధన్యవాదాలు

ಧನ್ಯವಾದಗಳು

Shkaria

“...the 6 GHz band [is] an opportunity to begin considering... spectrum sharing techniques in order to provide access for new services in the band while maintaining access and protection for existing services.” — ISED

FCC - USA

5950 + 5 X Ch. Number Wavelength 5.1cm - 2.0" to 4.2cm - 1.6"

Low Power Indoor

Radio Band

Center Freq

59

20 MHz

1 5 9 13 17 21 25 29 33 37 41 45 49 53 57 61 65 69 73 77 81 85 89 93

19

40 MHz

3 7 11 15 19 23 27 31 35 39 43 47 51 55 59 63 67 71 75 79 83 87 91

14

80 MHz

7 15 23 31 39 47 55 63 71 79 87 95

7

160 MHz

15 31 47 63 79 95

Standard Power AP

Radio Band

Center Freq

24

20 MHz

1 5 9 13 17 21 25 29 33 37 41 45 49 53 57 61 65 69 73 77 81 85 89 93

12

40 MHz

3 7 11 15 19 23 27 31 35 39 43 47 51 55 59 63 67 71 75 79 83 87 91

6

80 MHz

7 15 23 31 39 47 55 63 71 79 87 95

3

160 MHz

15 31 47 63 79 95

320 MHz

UNII-5

UNII-6

UNII-7

UNII-8

UNII-5

UNII-6

UNII-7

UNII-8

6GHz Device Classes

Low Power Indoor

- Indoor Only
- Integrated Antenna Required
- Can use up to 1200 MHz
- Wired Power



Standard Power

- Indoor or Outdoor
- Integrated or External Antenna
- UNII-5 and UNII-7 Only
- Requires AFC



Very Low Power

- Mobile Indoor or Outdoor
- Limited Range
- UNII-5 and UNII-7 Only
- Does not require AFC

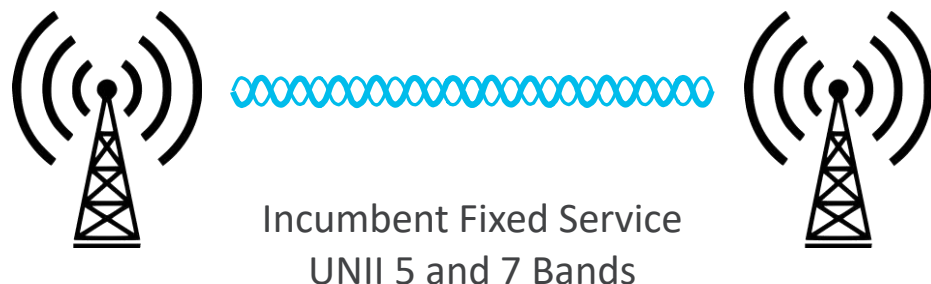


Client Devices

- Indoor or Outdoor
- Only Indoor under control of LPI AP
- 6 dBm lower power than AP



Automated Frequency Coordination



ID	Frequency	Emission Designator	Authorisation Date	T/R	Client	Licence	Site/Area
8274101	6.72 GHz	73MSD7WET	14/Apr/2022	R	Telstra Corporation Limited (39310)	11015100/2	Telstra Site DJAMBIDJIMBANT 0872
8274100	6.72 GHz	73MSD7WET	14/Apr/2022	T	Telstra Corporation Limited (39310)	11015100/2	Telstra Radio Site Coonega, 24 km WSW of Mount Eclipse NT
8274065	6.019325 GHz	56M0G7W	05/Aug/2021	R	Optus Mobile Pty Limited (20017363)	11309311/1	Wellington Shire Council Site Mount Bodangora Near WELLINGTON NSW 2820
8274064	6.019325 GHz	56M0G7W	05/Aug/2021	T	Optus Mobile Pty Limited (20017363)	11309311/1	Optus Site Lulworth Park off Mitchell Hwy GEURIE NSW 2830
8274063	6.271365 GHz	56M0G7W	05/Aug/2021	R	Optus Mobile Pty Limited (20017363)	11309311/1	Optus Site Lulworth Park off Mitchell Hwy GEURIE NSW 2830
8274062	6.271365 GHz	56M0G7W	05/Aug/2021	T	Optus Mobile Pty Limited (20017363)	11309311/1	Wellington Shire Council Site Mount Bodangora Near WELLINGTON NSW 2820

ACMA Register of Radiocommunications Licences



ACMA 6 GHz 220722

Rx green points, P2P white lines,
https://web.acma.gov.au/rf/assignment_range_search
4925-7125 MHz shows 16332 licensed nodes; >4000 links

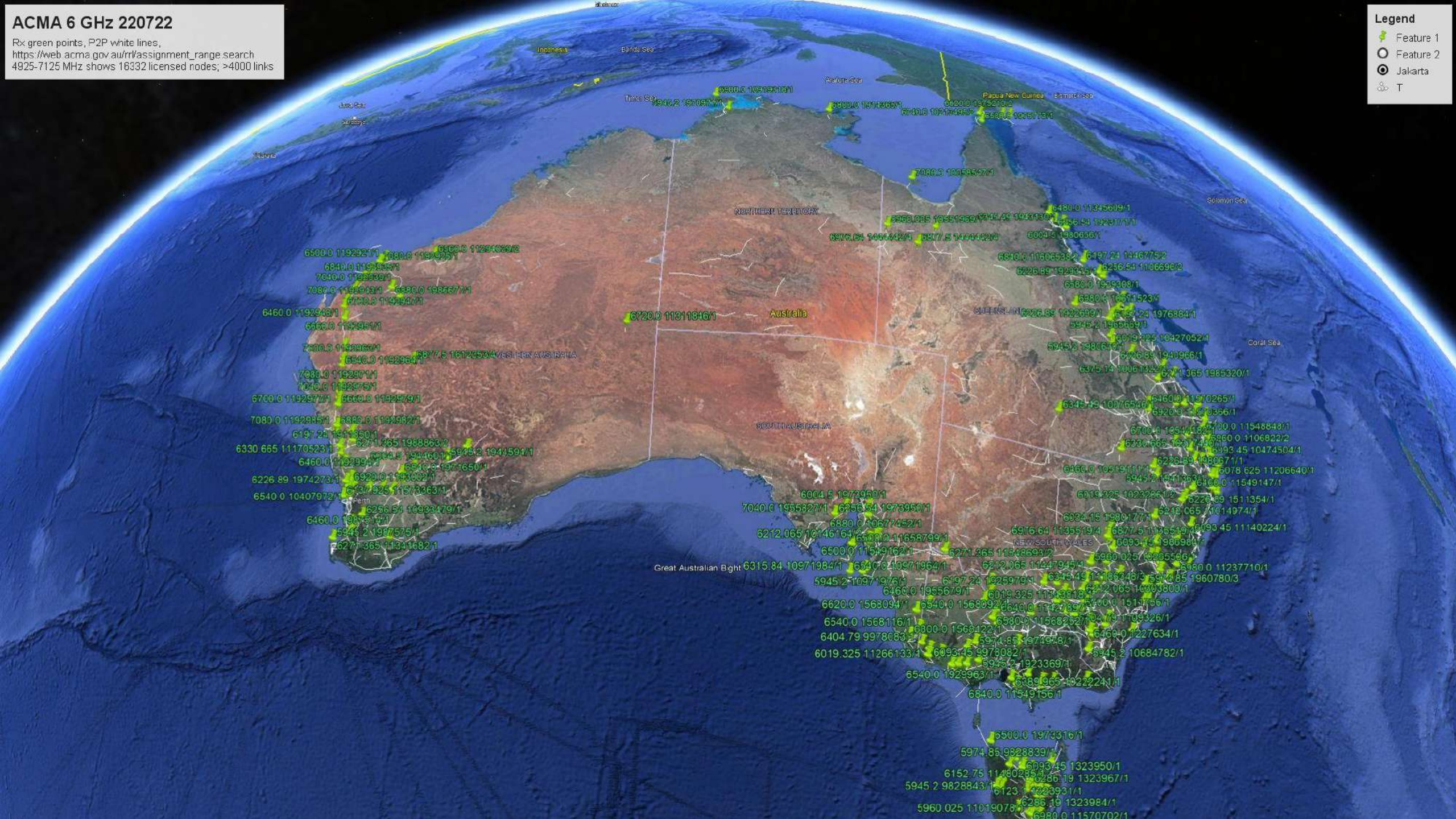
Legend

 Feature 1

 Feature 2

 Jakarta

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The Need for 1200MHz

- In the 5GHz band, 40MHz is the sweet spot for high density designs at a 12m spacing minimum
- A reduction of just 1m will lead to an unacceptable increase in co-channel interference

Area	1K ft ² / 93 m ²		1.2K ft ² / 111 m ²	1.5K ft ² / 130 m ²
BW	80 MHz	40 MHz	40 MHz	40 MHz
Pass/Fail				



Wi-Fi





The bridge to possible