Australian Government

acma
Australian Communications and Media Authority

Spectrum Tune-up

3.6 GHz band lot configuration options

communicating | facilitating | regulating

Agenda

- Overview on the 3.6 GHz band
- Metropolitan lot configuration
- Regional lot configuration
- Options
- How to provide feedback
- Questions

Overview

- On 5 March 2018, the Minister made a reallocation declaration
- Frequency band 3575-3700 MHz in metropolitan and regional Australia to be reallocated by issue of spectrum licences
- ACMA now preparing to allocate spectrum with an auction scheduled for late October 2018
- Spectrum to be divided into lots before it can be offered to market
- ACMA received a wide range of views on its preliminary position and has now developed some alternative options for the 3.6 GHz band

Metropolitan lot configuration

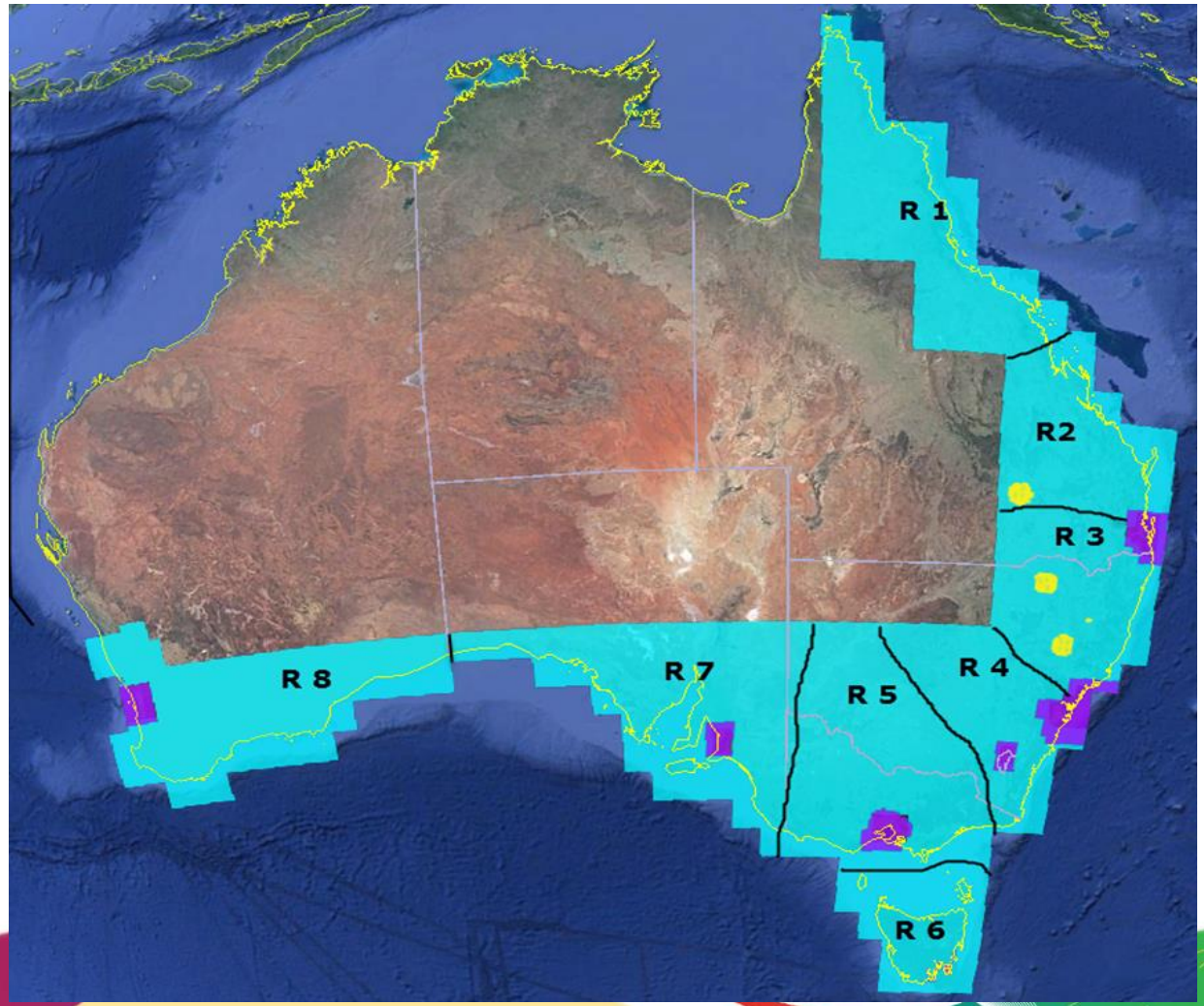
- Broad support for metropolitan lot boundaries to align with the holdings in the 3.4 GHz band
- Current holdings in 3.4 GHz varies amongst licensees (see Appendix A in Information Pack)
- Misaligned 3.4 GHz/3.6 GHz boundaries will reduce the ability for licensees to trade, swap or restack spectrum
- 3.4 GHz/3.6 GHz alignment risks ‘dead zones’ being closer to highly populated metropolitan regions
- There is interest in having a metropolitan and outer metropolitan split

Regional lot configuration

- Support for disaggregation of regional Australia consistent with lots offered in the 3.4 GHz band auction in 2000
- 3.6 GHz band to use time division duplex (TDD) technology
- Introducing small geographic lots and using TDD technology is likely to increase technical inefficiencies
- Proposal to split regional Australia into 8 regions and placing lot boundaries away from more populated areas:

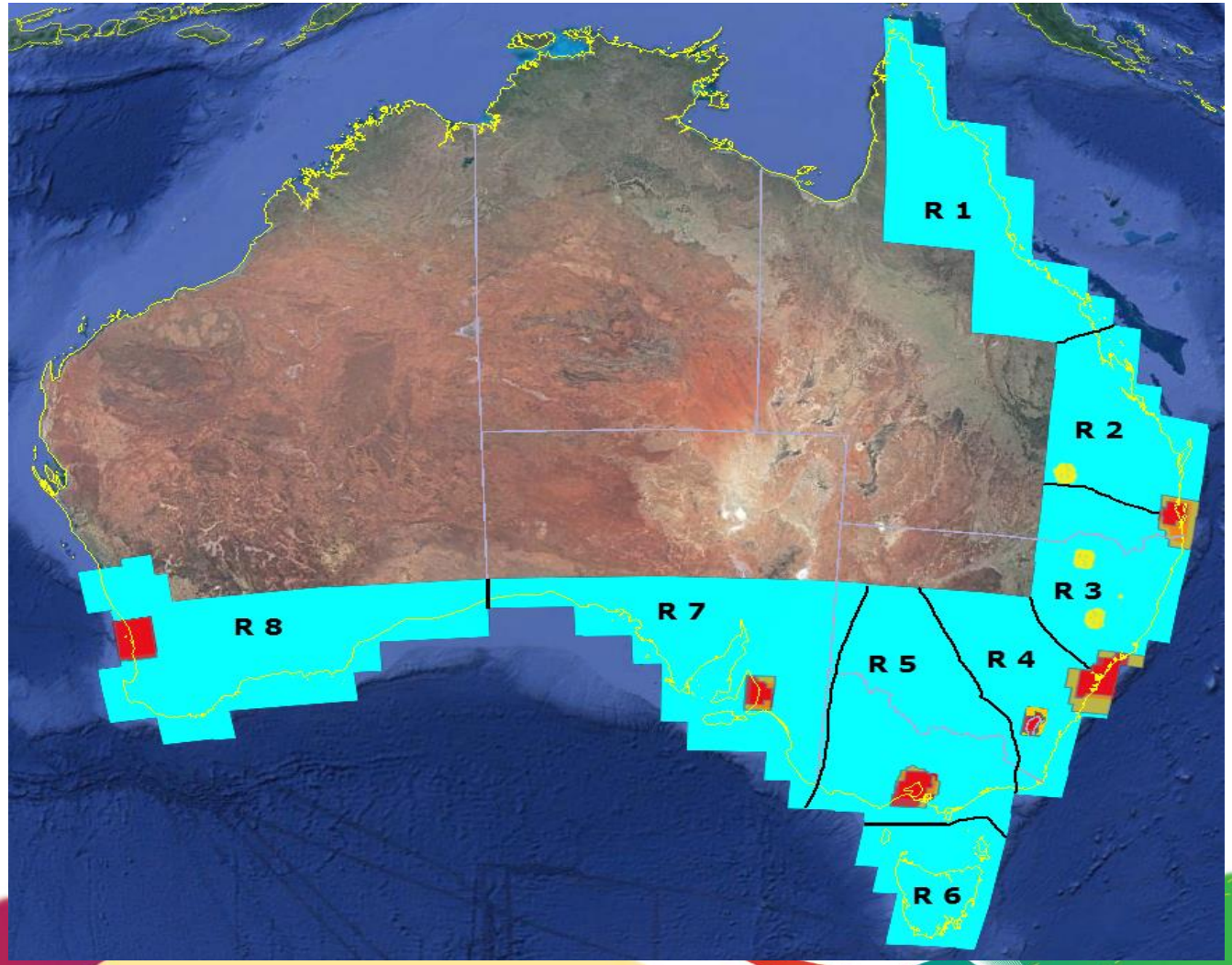
  - Northern Qld
  - Central and Eastern Qld
  - Southern Qld
  - Northern NSW
  - West and South-eastern NSW
  - Central NSW and Vic
  - Tas
  - Western Vic. and SA
  - WA

Option 1 – 3.4 GHz metropolitan lots as offered in 2000 allocation and 8 regional lots



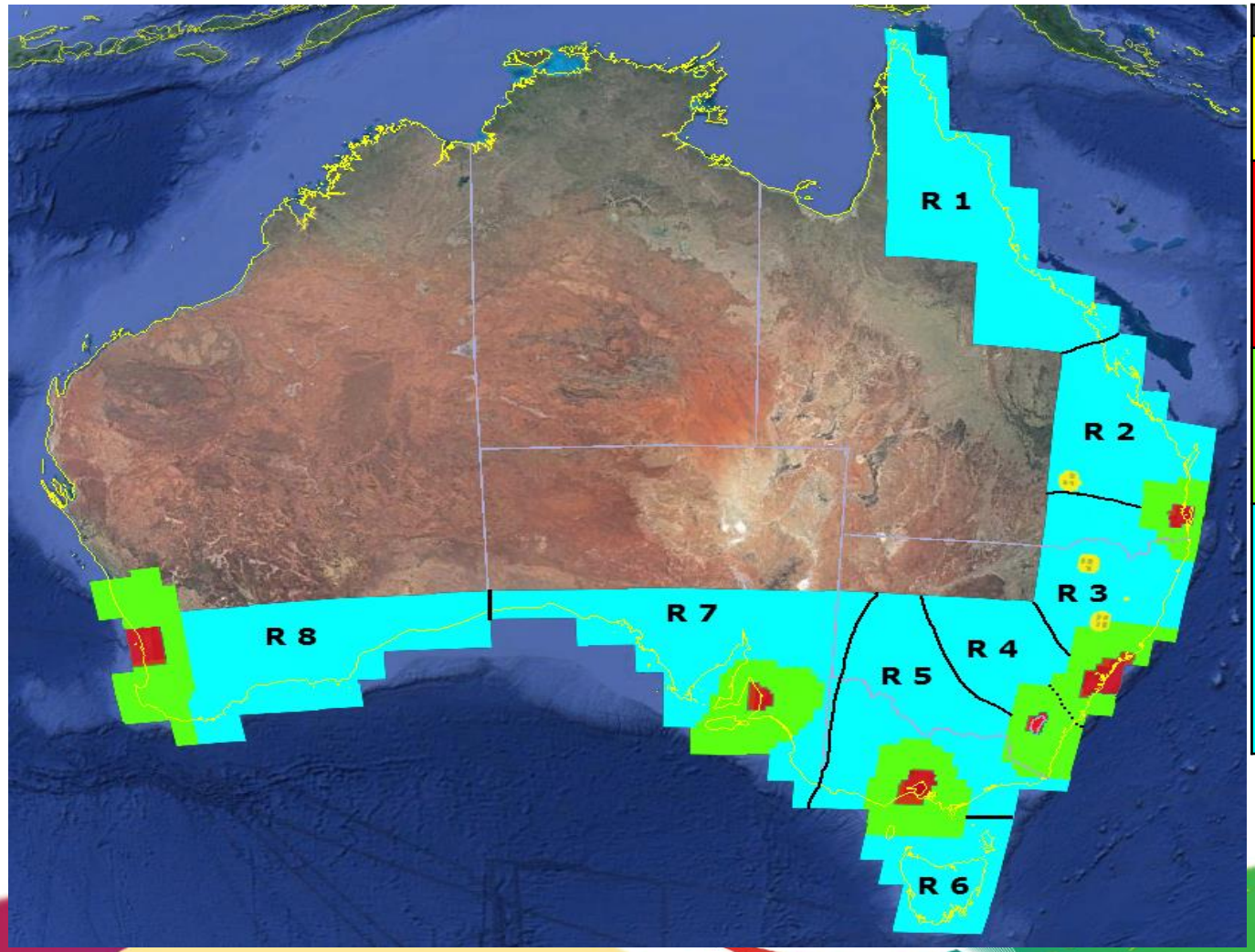
KEY:		
Yellow	Excise areas	Moree, NSW
		Quirindi, NSW
		Roma, Qld
		Uralla, NSW
Purple	Metro areas	Adelaide
		Brisbane
		Canberra
		Melbourne
		Sydney
		Perth
Blue	Regional areas	R1—Nth Qld
		R2—Ctrl/East Qld
		R3—Sth Qld & Nth NSW
		R4—East & West NSW
		R5—Ctrl NSW & Vic.
		R6—Tas.
		R7—SA & West Vic.
		R8—WA

Option 2 (a)- 3.4 GHz metropolitan lots (aligned with some 3.4 GHz band-licensed areas), smaller outer metropolitan lots & 8 regional areas



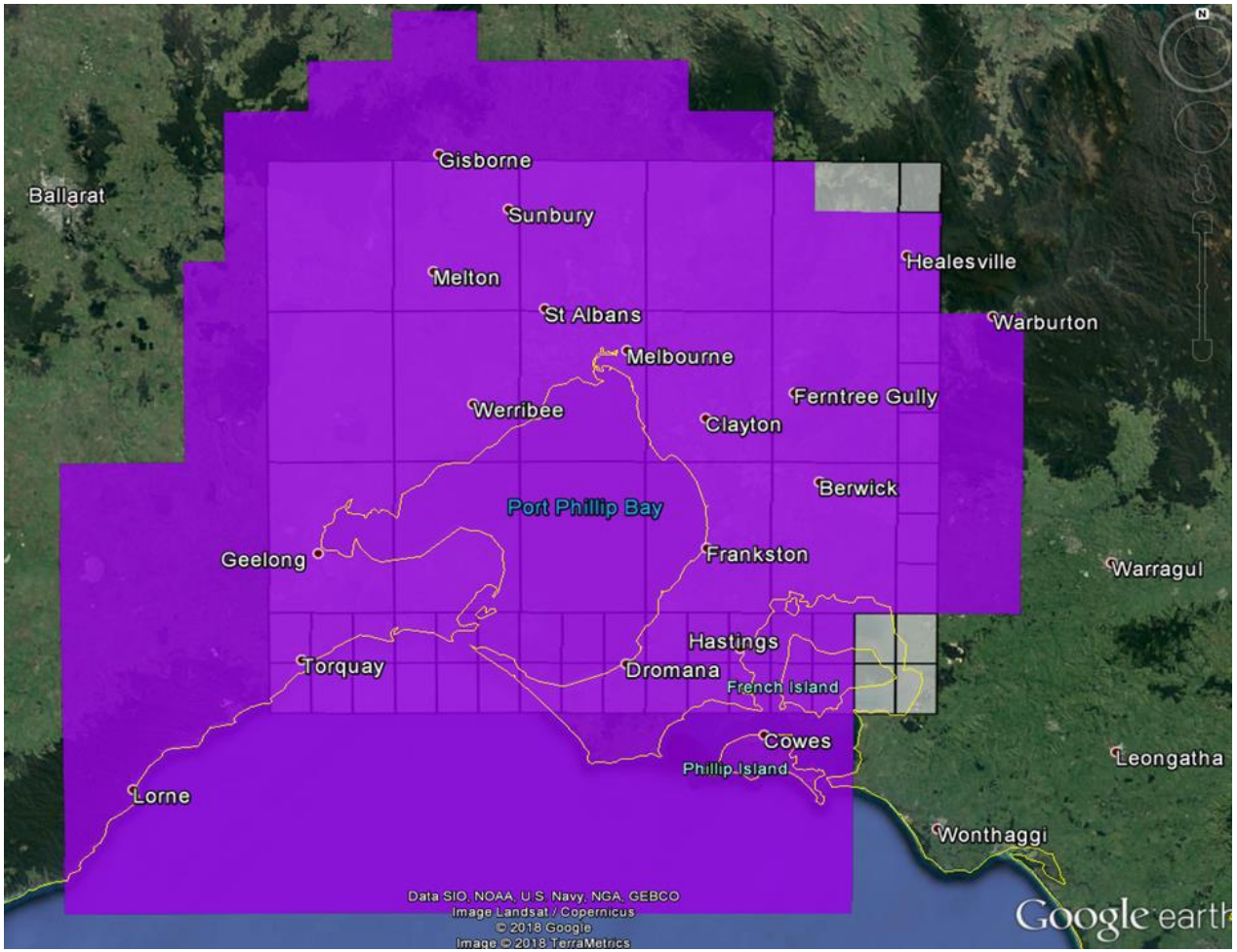
KEY:		
Yellow	Excise areas	Moree, NSW
		Quirindi, NSW
		Roma, Qld
		Uralla, NSW
Red	Metro areas	Adelaide
		Brisbane
		Canberra
		Melbourne
		Sydney
		Perth
Orange	Outer metro areas	Adelaide
		Brisbane
		Canberra
		Melbourne
		Sydney
Blue	Regional areas	R1—Nth Qld
		R2—Ctrl/East Qld
		R3—Sth Qld & Nth NSW
		R4—East & West NSW
		R5—Ctrl NSW & Vic.
		R6—Tas.
		R7—SA & West Vic.
		R8—WA

Option 2 (b) - 3.4 GHz metropolitan lots (aligned with some 3.4 GHz band-licensed areas), wider outer metropolitan lots and 8 regional areas



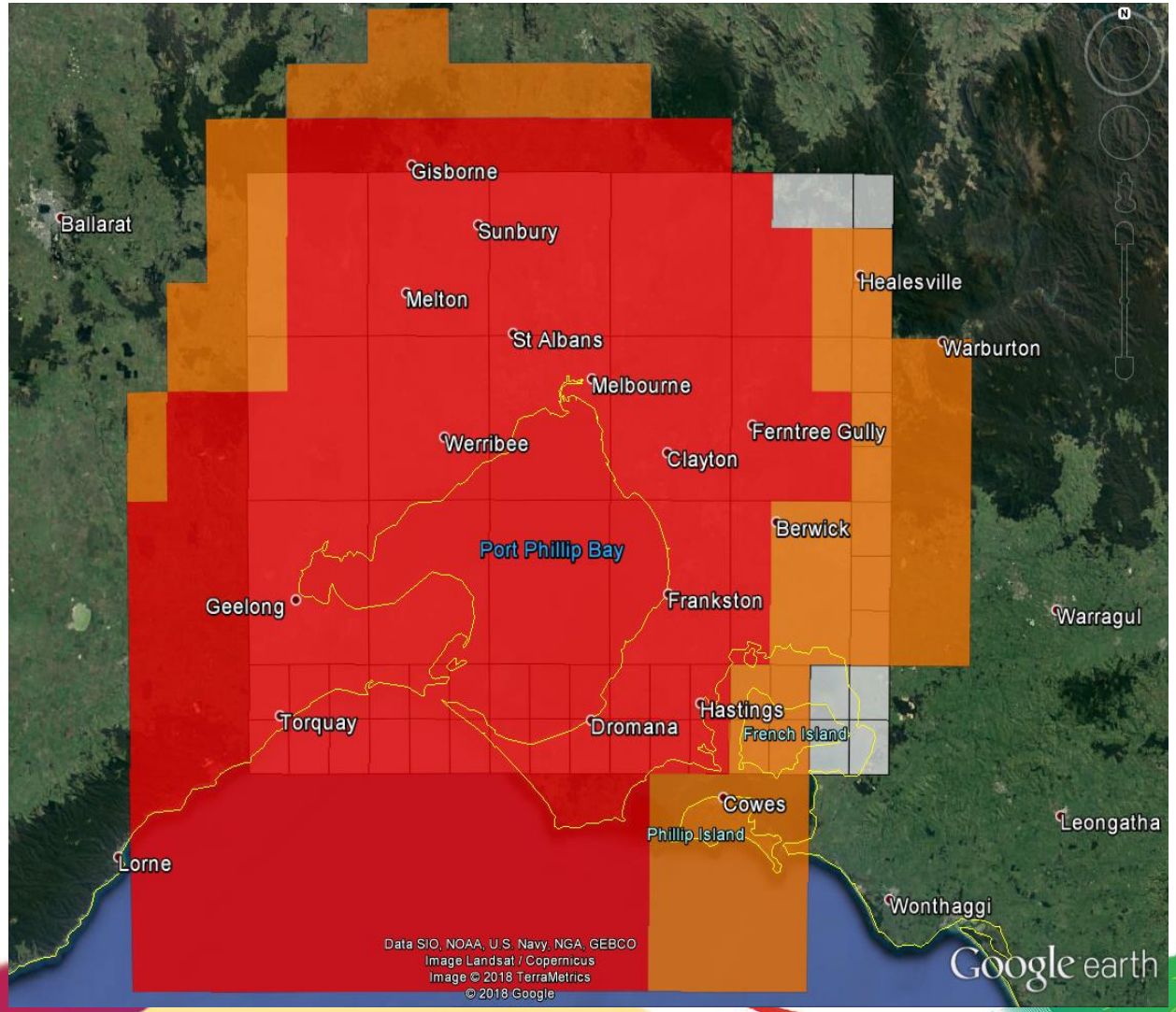
KEY:		
Yellow	Excise areas	Moree, NSW
		Quirindi, NSW
		Roma, Qld
		Uralla, NSW
Red	Metro areas	Adelaide
		Brisbane
		Canberra
		Melbourne
		Sydney
		Perth
Green	Outer metro areas	Adelaide
		Brisbane
		Canberra
		Melbourne
		Sydney
Blue	Regional areas	R1—Nth Qld
		R2—Ctrl/East Qld
		R3—Sth Qld & Nth NSW
		R4—East & West NSW
		R5—Ctrl NSW & Vic
		R6—Tas.
		R7—SA & West Vic.
		R8—WA

Overlay of reallocation period areas with Option 1



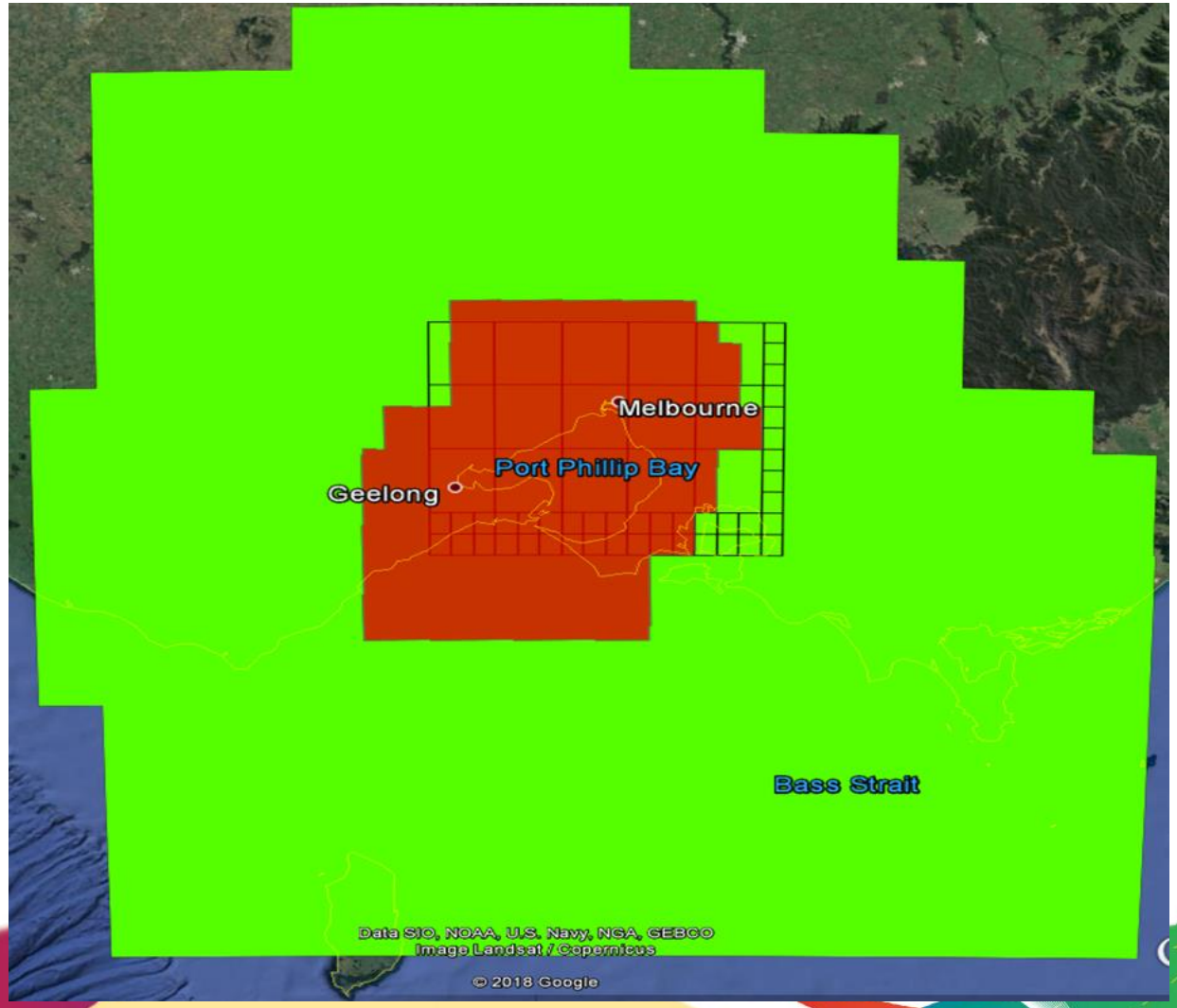
KEY	
Colour/Pattern	AREA
	Grid shows where 2 year reallocation period applies
Purple	Metro

Overlay of reallocation period areas with Option 2 (a)



KEY	
Colour/Pattern	AREA
	Grid shows where 2 year reallocation period applies
Red	Metro
Orange	Outer metro

Overlay of reallocation period areas with Option 2 (b)



KEY	
Colour/Pattern	**Area**
	Grid shows where 2 year reallocation period applies
Red	Metro
Green	Outer metro

Cross-border interference scenarios

FDD: High-site to low-site interference

TDD: High-site to high-site interference

Cross-border interference scenarios

FDD: High-site to low-site interference

TDD: High-site to high-site interference

Cross-border interference scenarios

FDD: High-site to low-site interference

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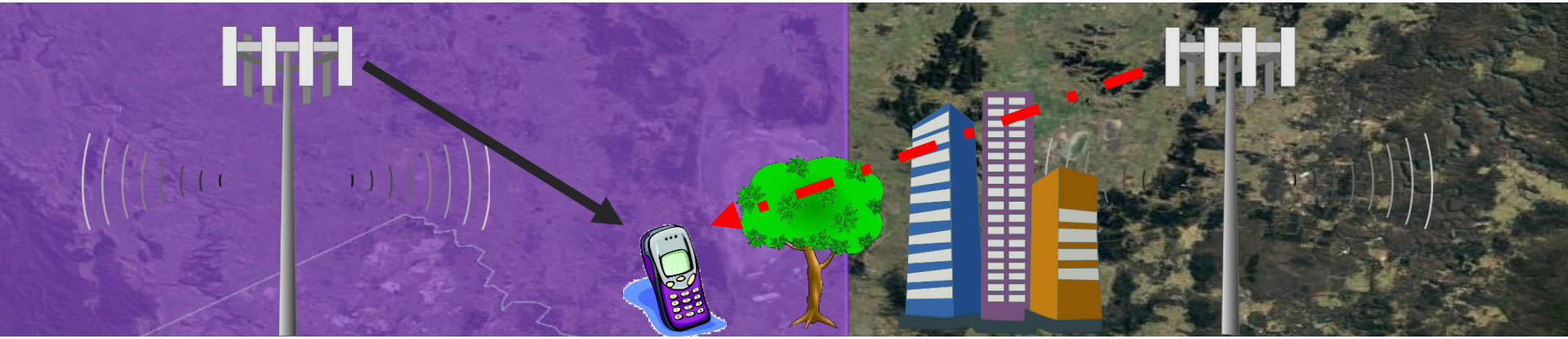
Cross-border interference scenarios

FDD: High-site to low-site interference

TDD: High-site to high-site interference

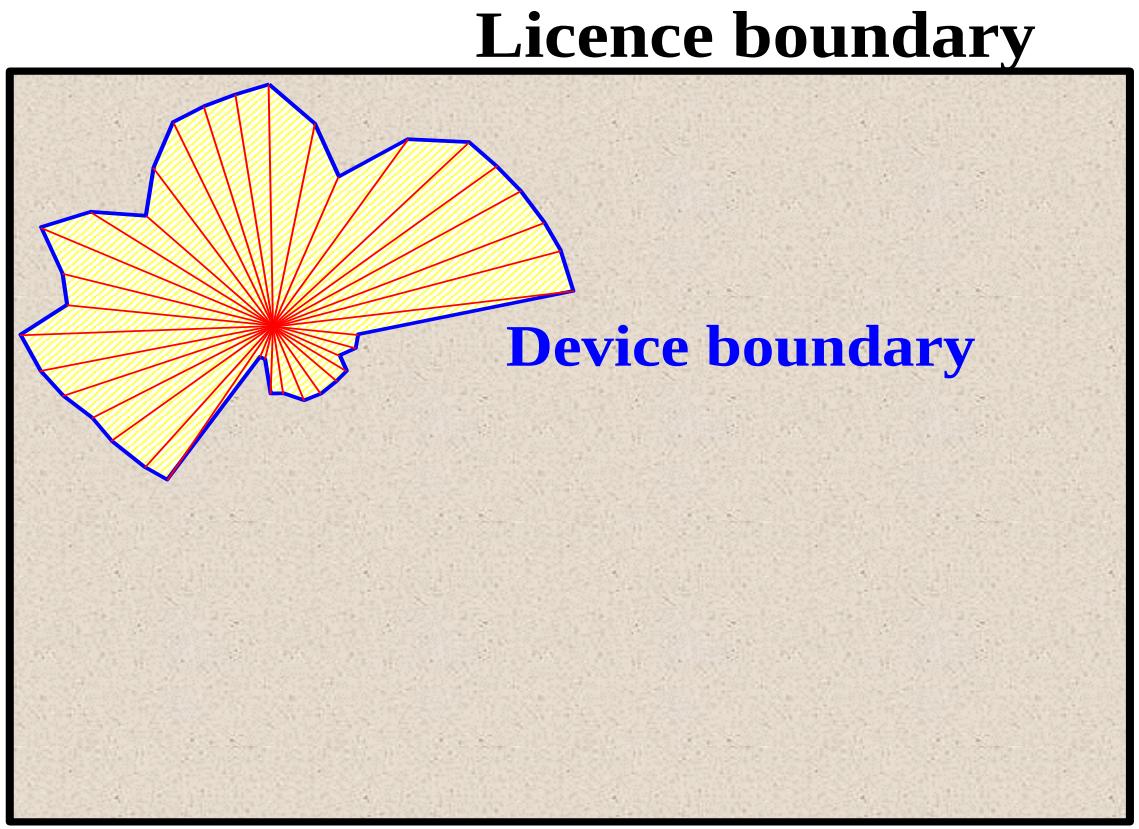
Cross-border interference scenarios

FDD: High-site to low-site interference



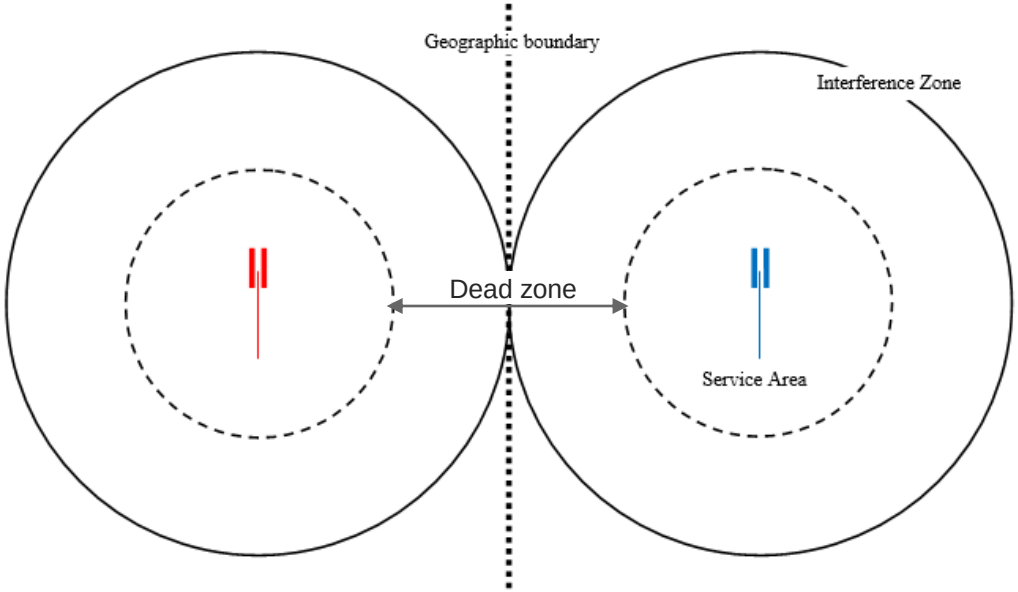
TDD: High-site to high-site interference

Device Boundary Criteria

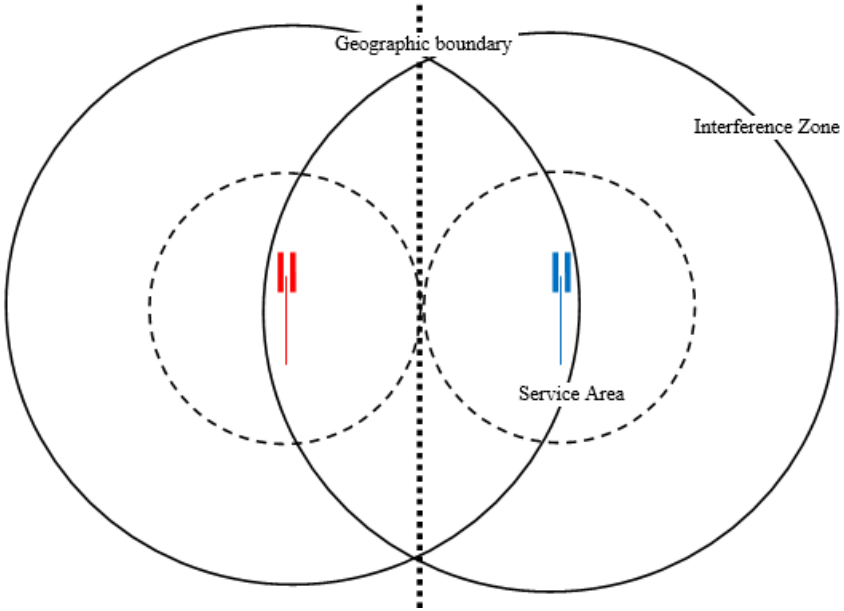


Device Boundary Criteria

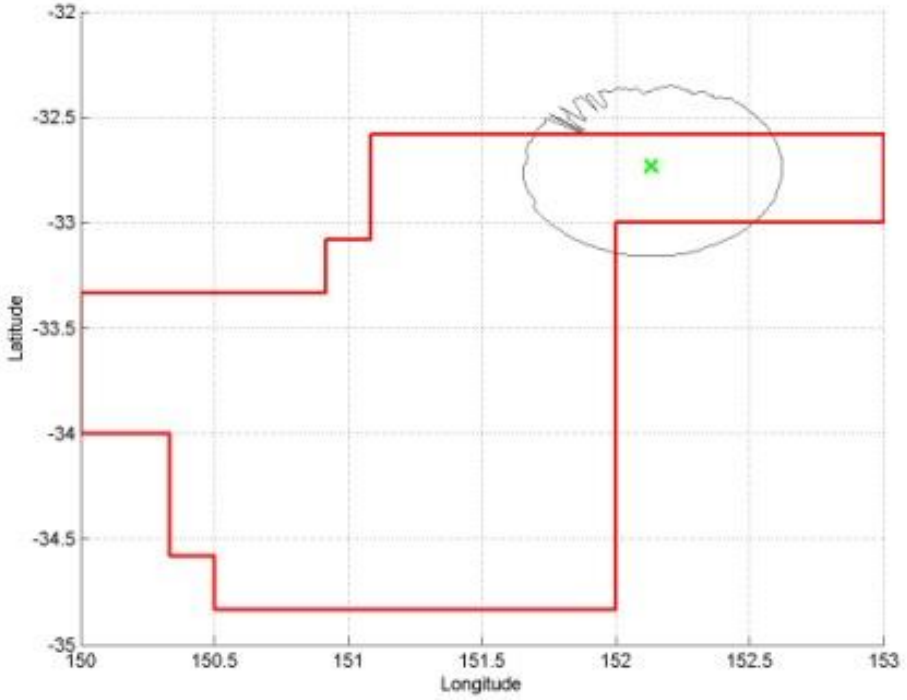
Absolute protection

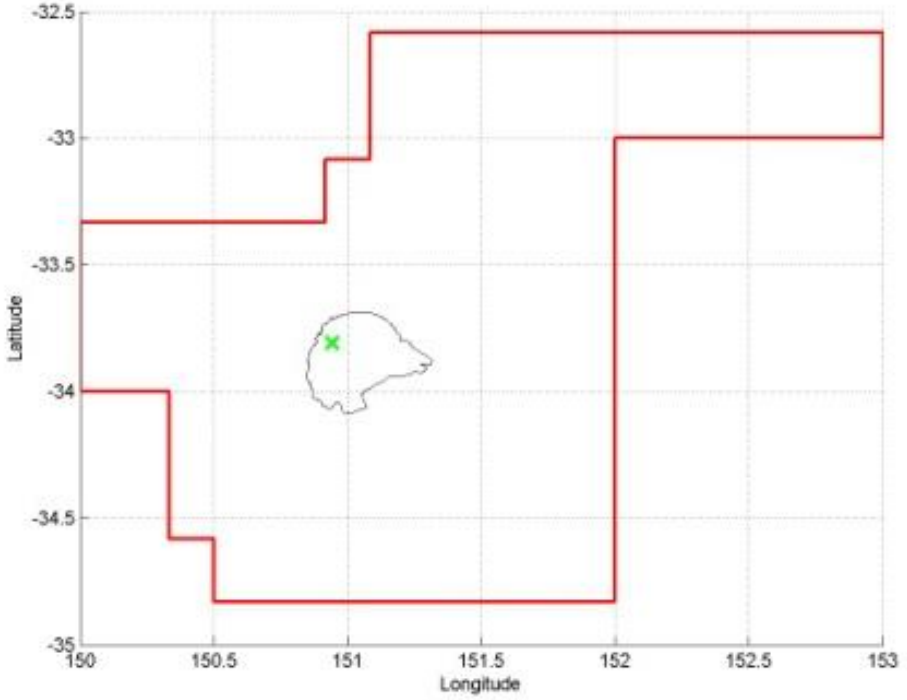


Shared interference (implemented in 3.4 GHz band)

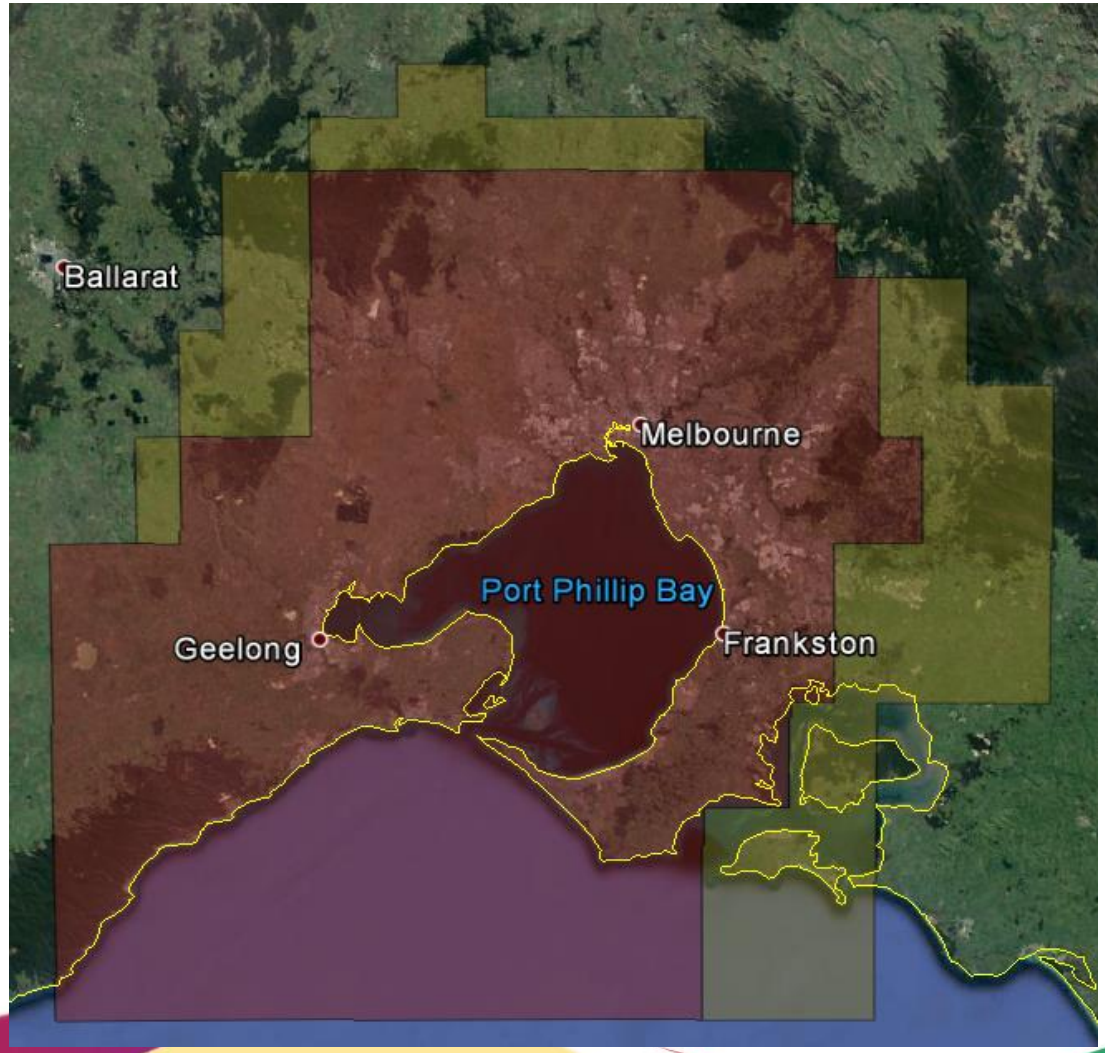


Device Boundary Criteria



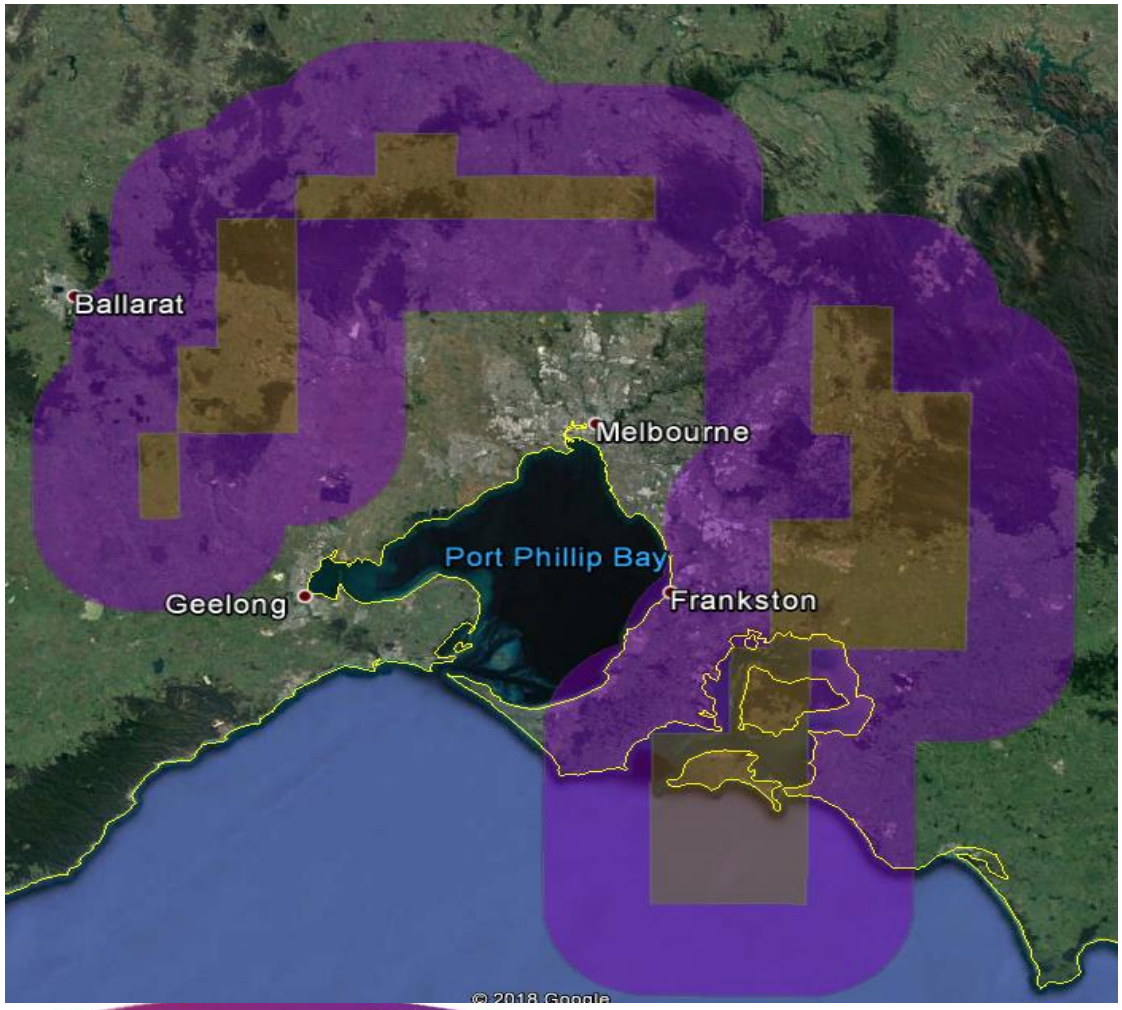


Melbourne metro and outer Melbourne lot boundaries (Option 2 (a))



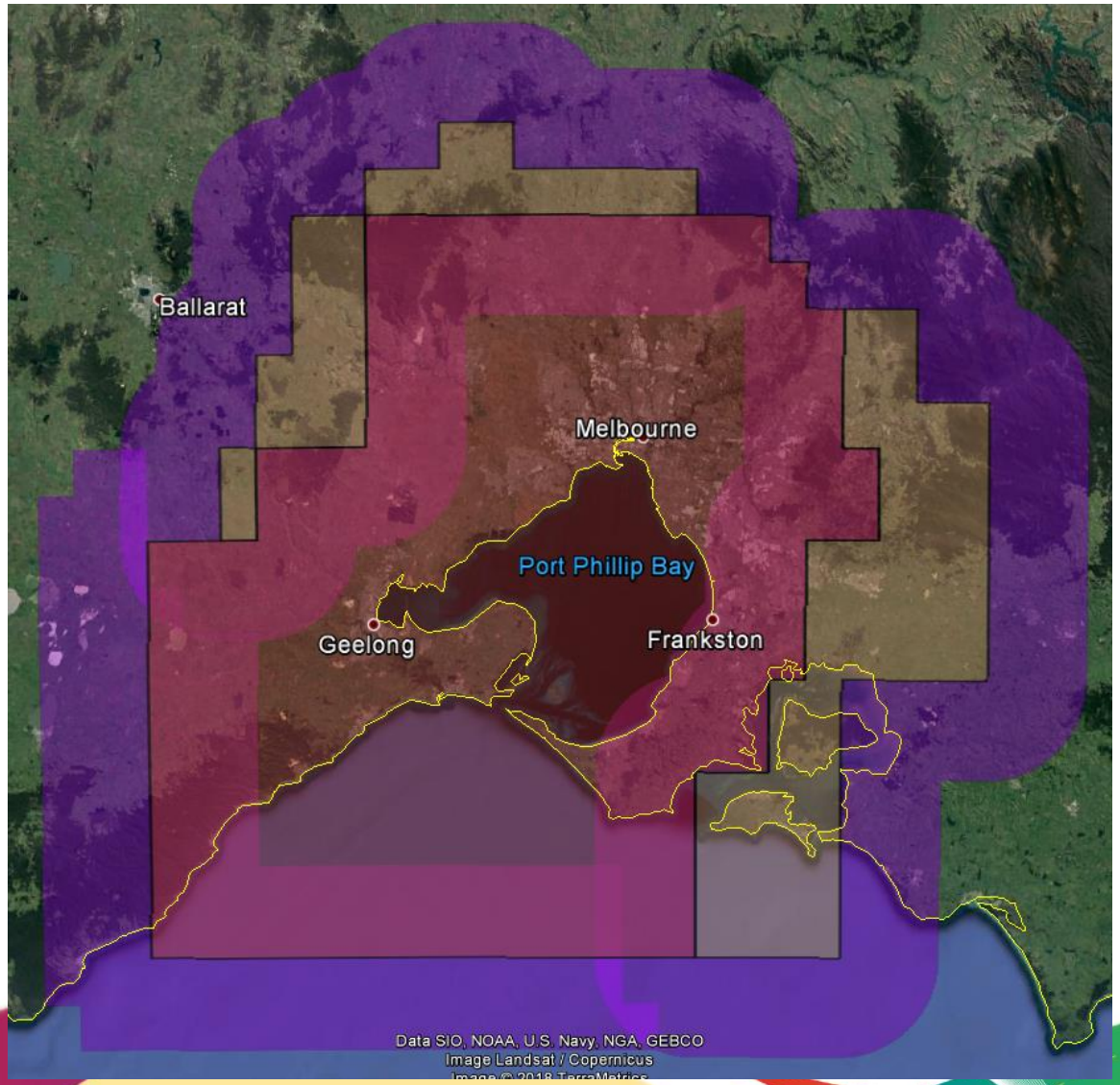
KEY	
Colour	**AREA**
Orange	Outer Melbourne metro
Red	Melbourne metro

Potential dead zone buffer around outer Melbourne



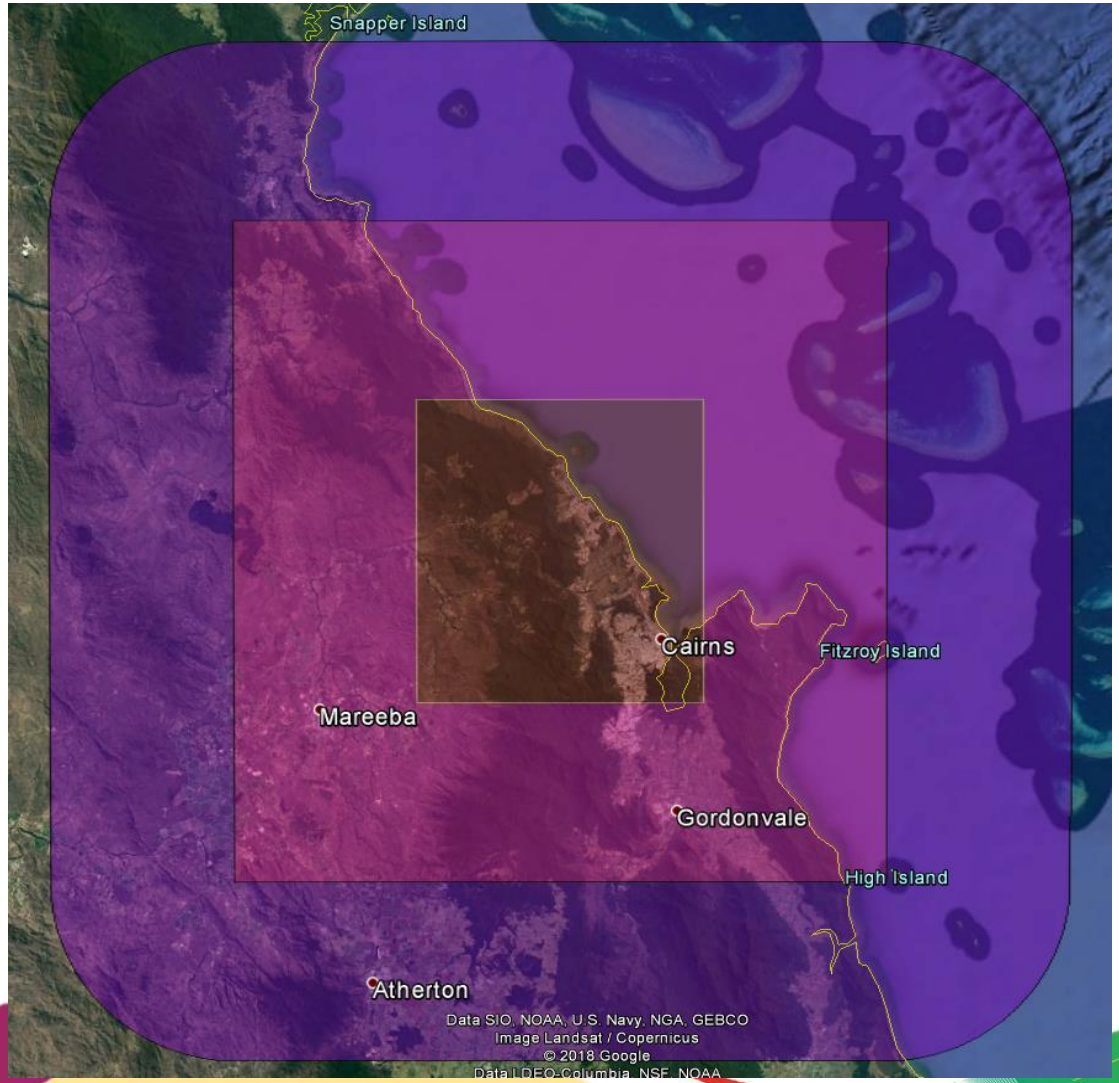
KEY	
Colour	**AREA**
Orange	Outer Melbourne metro
Purple	Dead zone 20 km outside area

Potential dead zone buffer around Melbourne metro and outer Melbourne



KEY	
Colour	**AREA**
Orange	Outer Melbourne metro
Red	Melbourne metro
Purple	Dead zone 20 km outside Outer Melbourne metro
Pink	Dead zone 20 km inside Melbourne metro

Potential dead zone buffer around a regional town centre – Cairns



KEY	
Colour	**AREA**
Red	Cairns
Purple	Dead zone 20 km outside Cairns
Pink	Dead zone 20 km inside Cairns

How to provide feedback

- At the Tune-up today
- Or by email to SpectrumAuctions@acma.gov.au
- Written submissions due by **Wednesday 28 March 2018**

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Questions?