

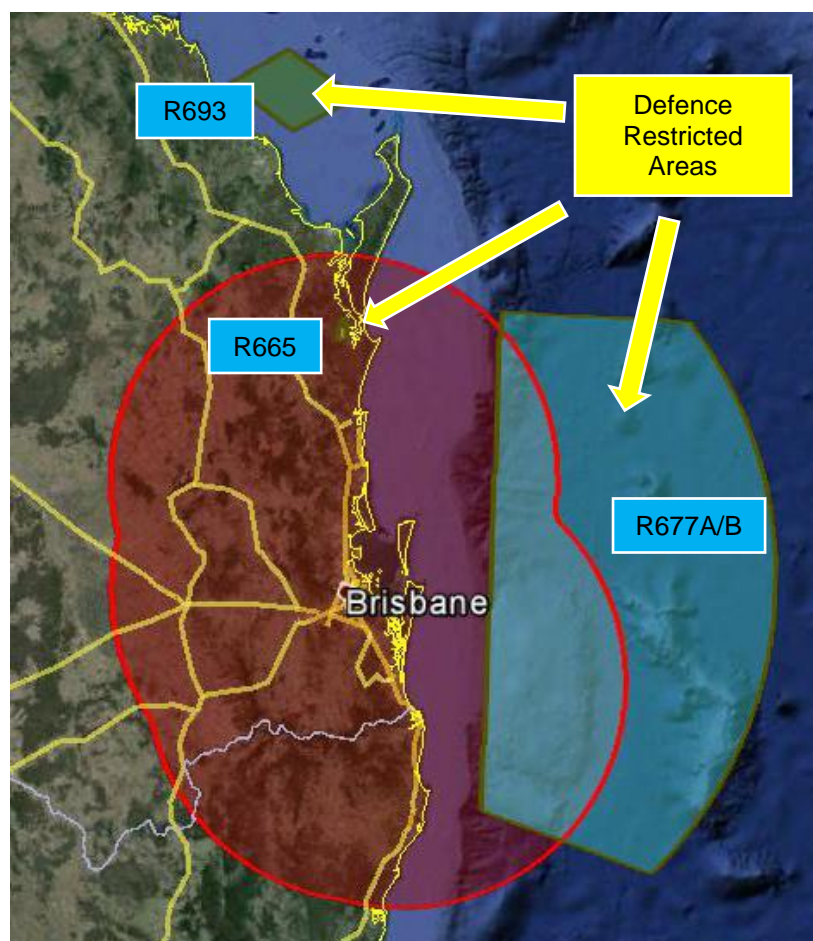
## 1. SCOPE

Free TV Operational Practice OP 63 is a guideline for use of radio frequency spectrum bands for the application of electronic news gathering (ENG) and television outside broadcast (TVOB) in the Brisbane / Gold Coast area.

This Operational Practice has been developed to assist all those involved in ENG and TVOB operations in the Brisbane / Gold Coast area with relevant instructions for access to and coordination of the bands assigned by the Australian Communications and Media Authority for ENG and TVOB operations as specified in ACMA's Radiocommunications Advisory Licensing instruction (RALI) FX 21.

## 2. FREQUENCY BAND ASSIGNED and LICENSED to ENG and TVOB

This Operational Practice applies in the Brisbane / Gold Coast areas and their surrounds as defined by the combined area of the red line in Figure 1 (hereafter referred to as the "red zone"). This zone is an area 150km radius from Brisbane CBD, Surfers Paradise and Bald Knob.



**Figure 1 Brisbane / Gold Coast Area Definition**

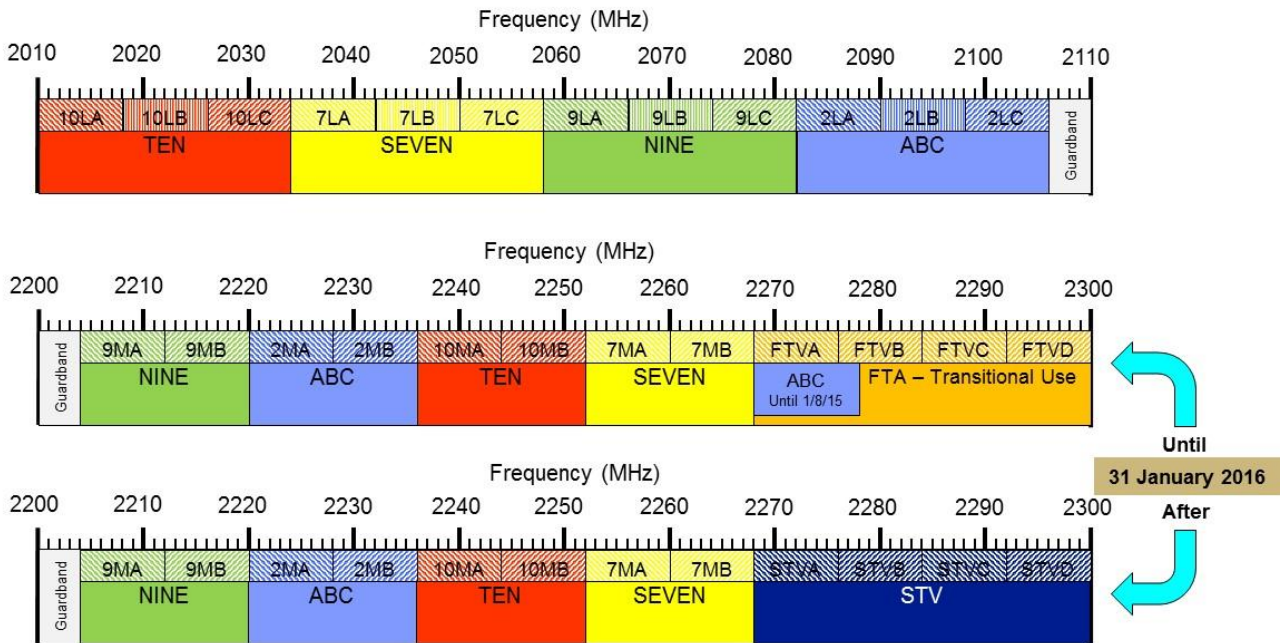
**FREE TV AUSTRALIA OPERATIONAL PRACTICE OP 63**

Spectrum usage for ENG and TVOB Operations in Brisbane / Gold Coast Area

Channel arrangements for TOB services in the frequency bands 2010 - 2110 MHz and 2200 - 2300 MHz are to be implemented in a phased approach across Australia. For the Brisbane / Gold Coast region this re-allocation period commenced November 2013 and will conclude on 31 January 2016. These arrangements are illustrated in Figure 2, showing the major change being the allocation of the band 2268 – 2300 MHz to free to air broadcasters for transition until 31 January 2016 and to subscription television thereafter.

In the band 2268 – 2300 MHz, until 31 January 2016, the prime objective is to facilitate the transition of ABC, Seven Network, Nine Network Australia and the Network Ten TOB operations from the 2.5 GHz band. However, it should be noted that the ABC have licenced 2268 – 2278 MHz until 1st August 2015.

After 31 January 2016, the sub-band 2268-2300 MHz will be available for use by FOX Sports who will coordinate the subscription television (STV) use of this sub-band.



**Figure 2: 2 GHz and 2.2 GHz TOB channelling arrangements**

**3. PERMISSABLE EQUIPMENT SPECIFICATIONS FOR ENG and TVOB OPERATIONS**

Across the 3 bands in which TVOB and ENG are permitted to operate, there are a range of power, height and equipment type limits that apply in various band segments. These are shown in Table 1. The figures provide for effective isotropic radiated power (EIRP) radiated within an 8 MHz channel and height limits are above the local ground height.

Full equipment specifications are provided in Appendix A.

**Table 1 TOB Equipment Permitted in the 2 GHz and 2.2 GHz Bands**

| <b>Frequency Range (MHz)</b> | <b>Wireless Cameras</b> | <b>TVOB Vans and Temporary Links</b> | <b>Helicopters and other airborne links</b> |
|------------------------------|-------------------------|--------------------------------------|---|
|                              | <b>EIRP</b>             | <b>EIRP</b>                          | <b>EIRP</b>                                 |
| 2010 -2110                   | 26 dBm                  | 62.5 dBm                             | 62.5 dBm                                    |
| 2200 -2268                   | 26 dBm                  | 62.5 dBm                             | <b>Not permitted</b>                        |
| 2268 - 2300                  | 26 dBm                  | 62.5 dBm                             | <b>Not permitted</b>                        |

**4. FREQUENCY COORDINATION**

**4.1 Interference to ENG and TVOB receivers**

In the 2 GHz band, all fixed microwave links are cleared within the red zone and there are no satellite uplinks so no interference should be encountered. The upper edge of the band may encounter some interference from public telecommunications services in the adjacent band, so guardbands have been assigned in the TVOB / ENG channel plans to cater for this interference.

In the 2.2 GHz band, all fixed microwave links are cleared within the red zone and there are no satellite downlinks so no interference should be encountered from these services. The Department of Defence operates aeronautical mobile telemetry (AMT) systems in the band 2200 2300 MHz in South East Queensland in Restricted Areas R665, R677A, R677B and R693 as shown in Figure 1. Restricted Areas R677A and R677B are used more frequently than R665 and R693. Licensed frequencies are at 2255 MHz, 2265 MHz and 2275 MHz, each with a 2 MHz bandwidth.

Operations will mainly be conducted from RAAF Base Amberley near Ipswich. AMT transmissions shall occur only while within the restricted areas. Department of Defence are obliged to provide advice of AMT operations prior and this should be checked before deployment to assess if links may suffer any interference, but this would most likely be only immediately adjacent to the coast.

Therefore, before deploying links in the 2.2 GHz band adjacent to the coast or longer links from coastal locations, broadcasters should check the advice from Defence to assess if the link will suffer any interference.

The upper edge of the bands may encounter some interference from public telecommunications services in the adjacent band, but a 2 MHz guardband exists immediately above 2300 MHz, to the likelihood of interference is reduced.

**4.2 Interference from ENG and TVOB transmitters**

In both the 2 GHz and 2.2 GHz bands, operation of TVOB / ENG services will not interfere with other services.

**4.3 Summary**

Table 2 summarises the types of equipment that may be used in different segments of the 2 GHz and 2.2 GHz bands and co-ordination with other services. If a band segment row is all green, no co-ordination is required.

**Table 2 Co-ordination / Spectrum Sharing Summary - 2 GHz and 2.2 GHz Bands**

| Frequency Range (MHz) | Typical TOB Equipment                      | Interferors |                |         | Co-ordination Requirements                       |   |
|-----------------------|--|-------------|----------------|---------|--|---|
|                       |  | Fixed Links | Earth Stations | Defence | Where TOB may be the victim                      | Where TOB may be the interferor                   |
| 2010 - 2110           | All types of TOB links                     |             |                |         |  |   |
| 2200 - 2268           | All types of TOB links except helicopters  |             |                |         | Defence to advise broadcasters of AMT operations |   |
| 2268 - 2300           | All types of TOB links except helicopters. |             |                |         | Defence to advise broadcasters of AMT operations | Co-ordinate as required with other TOB operations |

**Legend**

|  |   |
|--|---|
|  | No TOB operations allowed, so not applicable  |
|  | No spectrum sharing so no co-ordination required  |
|  | Spectrum Sharing with low impact to TOB / ENG, no co-ordination required by broadcasters or TOB operators, check advice provided by other users of the spectrum |
|  | Spectrum sharing with low impact from TOB / ENG, co-ordination required by broadcasters with other spectrum users   |

There are no coordination requirements for broadcasters use of the 2.5 GHz mid band gap.

**5. REFERENCES FOR SPECTRUM USAGE FOR ENG AND TVOB OPERATIONS**

RALI FX-21 Television Outside Broadcasting Services in the Bands 1980-2110 MHz and 2170-2300 MHz.

Go to [www.acma.gov.au](http://www.acma.gov.au) and search for RALI FX 21