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**Coordination Information for
Defence Aeronautical Mobile Telemetry Systems
Operating in the 2200 to 2300 MHz Frequency Range**

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1 INTRODUCTION

This document relates to Defence operation of aeronautical mobile telemetry (AMT) systems and does not cover civil operation of AMT. Defence operates AMT systems on an intermittent basis in the 2200 to 2300 MHz frequency range at a number of locations within Australia and its territorial waters. Defence AMT systems have the potential to interfere with or be interfered with by the operation of fixed point to point systems planned for operation within this frequency range.

This document presents relevant operating parameters of Defence AMT systems to assist point to point fixed services planners assess the risk of interference to and from these systems.

NOTE:

This document represents the level of detail known at its issue date and will be periodically updated as more information becomes available.

2 GENERAL AMT OPERATION

Defence AMT systems consist of two components. The first component is the airborne transmitter, which operates from the time it is activated until it is destroyed or is flown back to its originating point and deactivated. The second component is the ground based receiver which tracks the transmitter until it is destroyed or deactivated.

Typically, the transmitter flies from a launch point via a predefined transit corridor to an exercise area where it then executes a variety of undefined manoeuvres before being destroyed or returning back to its originating point via the transit corridor. The receiver acquires the transmitter signal as soon as possible after activation and until it is destroyed or deactivated.

Figure 1 depicts the designated Defence range areas within which Defence AMT system operations may occur. The majority of Defence AMT system operations will occur in the area known as the Tasman Sea Range Area (see 3.1.1). Peaks of activity may also occur in the area known as the Woomera Prohibited Area (see 3.3.1). The next most frequently used area is the area west of Perth Western Australia (see 3.2.1). All other areas are likely to be used less frequently.

3 AMT PARAMETERS

The AMT parameters presented in this document include:

- Receiver
 - Location
 - Antenna height above ground level
 - Frequency range
 - Required protection level as a power flux density (pfd) including protection arc where applicable

3.1 New South Wales

The Department of Defence will perform a majority of its AMT transmissions in the range area known as "Tasman Sea". This range area consists of Restricted Areas¹ R453 and R495 and a transit corridor between RAAF Base Williamtown and the range area.

In addition to the Tasman Sea Range Area, transmissions may occasionally occur in the following Restricted Areas R489, R532, R576A and R576B. There may be increased activity in R532, R576A and R576A in the future.

The tables below provides relevant parameters to assist fixed link planners to assess the risk of interference associated with the operation of Defence AMT systems and identifies the level of protection required by the associated AMT receiver.

3.1.1 Transmitter Parameters - Tasman Sea Range Area

Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	Typical: 30 minutes Maximum: [TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	33.903889	152.114444	0m	0 kts
	32.796944	151.833333	9449m	300 kts
	33.912778	152.400833		
	34.7275	152.154722		
	34.545556	151.918611		
Area	Latitude S	Longitude E	Altitude	Speed
	R453		76 to 9449m	400 kts
	35.051111	150.668333		
	34.986389	150.710278		
	34.999722	150.831389		
	34.958333	150.837222		
	34.956667	150.999444		
	34.950556	151.505		
	34.942222	151.993056		
	34.933611	152.424167		
	35.316389	152.930556		
	35.615556	152.8375		

¹ Restricted Areas are defined in Airservices Australia publication "Designated Airspace Handbook". For convenience the latitude and longitude of these areas is provided in the tables in this Spectrum Planning Report.

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35.932904	152.666246
36.225	152.424722
36.474017	152.127209
36.68	151.7725
36.829211	151.385241
36.945278	150.750278
36.147222	150.6625
35.746944	150.619167
35.3325	150.574722
35.099722	150.55
R495	
34.956667	150.999444
34.935278	150.999167
34.732222	151
34.675	151.05
34.5	151.135278
34.5	151.5
34.5	151.859722
34.608333	151.999722
34.933611	152.424167
34.942222	151.993056
34.950556	151.505

3.1.2 Transmitter Parameters - Other New South Wales Range Areas

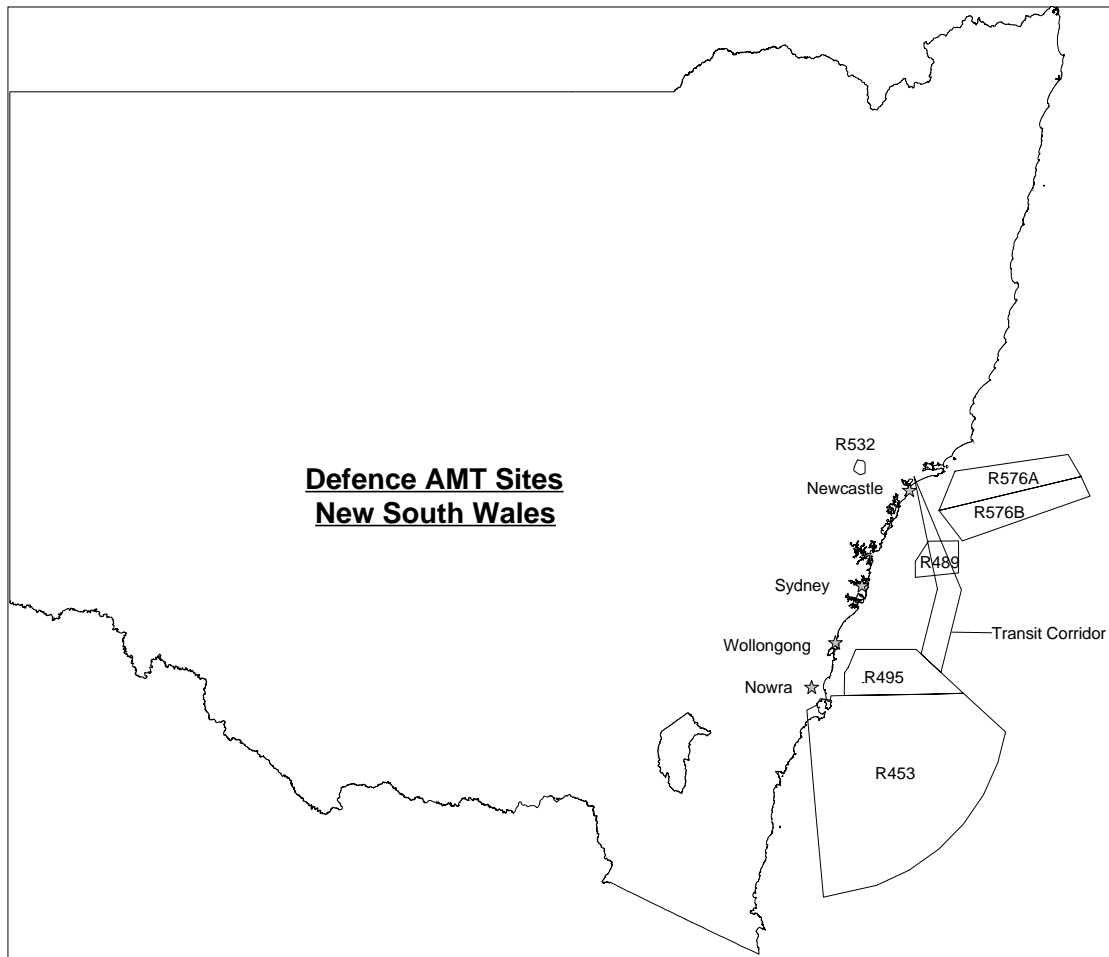
Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	[TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	[TBA]	[TBA]	[TBA]	[TBA]
Areas	Latitude S	Longitude E	Altitude	Speed
	R489		[TBA]	[TBA]
	33.633889	151.850556		
	33.435	152.0075		
	33.429722	152.3675		
	33.745	152.367778		
	33.789722	151.850556		
	R532			
	32.635556	151.155278		
	32.632778	151.156667		
	32.642222	151.226944		
	32.661667	151.241667		
	32.670556	151.247778		
	32.751944	151.246389		
	32.762222	151.246667		
	32.776944	151.195833		
	32.774722	151.1775		
	32.738333	151.112778		
	32.710278	151.115		
	32.701389	151.116944		
	32.701944	151.1225		
	32.686389	151.125556		
	32.655278	151.145278		
	R576A			
	32.743333	152.323333		
	32.577222	153.680278		
	32.796667	153.835		
	33.129722	152.1325		
	R576B			
	33.129722	152.1325		
	32.796667	153.835		
	32.989167	153.944167		
	33.430278	152.412222		

3.1.3 Receiver Parameters - Tasman Sea Range Area

Parameter	Value	
Location	35.161133S 150.730794E	
Antenna Height	30m AGL	
Frequency Range	2200 to 2300 MHz	
Protection Level	pf _d (dBW/m ² /MHz)	Arrival Azimuth θ° (True)
	-100 - 0.6 θ	$0^\circ \leq \theta \leq 30^\circ$
	-118 - 0.6 (190 - θ)	$190^\circ \leq \theta \leq 225^\circ$
	-100	$225^\circ \leq \theta \leq 360^\circ$

3.1.4 Receiver Parameters - Other New South Wales Areas

The AMT receivers located in the other New South Wales areas do not require protection.



3.2 Western Australia

The Department of Defence operates AMT systems in a number of areas in the vicinity of Perth Western Australia. The first area is west of Perth that consists of Restricted Areas R119 and R144 and a transit corridor between RAAF Base Pearce and the Restricted Area. Most activity in Western Australia will occur in this area.

The second area is south of Perth in Restricted Area R166A / R166B and a transit corridor between RAAF Base Pearce and the Restricted Area.

The third area is north of Perth in Restricted Areas R179 and R180.

In addition to operations in the Perth area, AMT systems may occur on rare occasions in the North West in Anna Plains and Restricted Areas R861, R862, R863, R864, and R811.

The tables below provides relevant parameters to assist fixed link planners to assess the risk of interference associated with the operation of Defence AMT systems and identifies the level of protection required by the associated AMT receiver.

3.2.1 Transmitter Parameters – Perth Area

Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	[TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	31.6683	116.0150	[TBA]	[TBA]
	32.0050	115.5450		
	32.0000	115.3750		
Areas	Latitude S	Longitude E	Altitude	Speed
	R119 and R144		[TBA]	[TBA]
	31.648333	113.638611		
	31.439856	113.691036		
	31.240569	113.767243		
	31.049119	113.86691		
	30.841389	114.008889		
	31.396944	114.978611		
	31.326111	115.038333		
	31.636389	115.4975		
	31.898611	115.571667		
	31.874722	115.378056		
	32.091111	115.396944		

32.246389	115.489444
32.1575	115.658889
32.156719	115.661804
32.160797	115.660236
32.163139	115.660984
32.167507	115.662387
32.175457	115.660175
32.191696	115.666774
32.195255	115.67094
32.205055	115.669185
32.212437	115.670772
32.226871	115.678531
32.245956	115.680713
32.2475	115.69
32.375556	115.658333
32.461111	115.636944
32.976667	115.310556
33.711111	114.837778
33.619018	114.655187
33.4709	114.422726
33.2998	114.214351
33.139722	114.059722
32.960871	113.92187
32.837269	113.844335
32.741706	113.793124
32.514167	113.698611
32.34071	113.650139
32.098026	113.613748
31.853357	113.61246
R166A and R166B	
32.9244	115.2067
32.1972	115.7675
32.1514	115.7583
32.1539	115.7944
32.1633	115.9447
32.2208	116.0719
33.0489	116.4136
32.9244	115.2067
R179	
31.280000	116.250000
31.133333	116.241667
31.133333	116.383333
31.371389	116.383333
31.371389	116.280556
31.343333	116.261667
31.343333	116.211667
31.280000	116.211667

	R180			
	31.343333	116.211667		
	31.280000	116.211667		
	31.280000	116.261667		
	31.343333	116.261667		

3.2.2 Transmitter Parameters – Northern West

Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	[TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	[TBA]	[TBA]	[TBA]	[TBA]
Areas	Latitude S	Longitude E	Altitude	Speed
	Anna Plains		[TBA]	[TBA]
	19.045	121.518333		
	19.053333	121.668333		
	19.77	121.096667		
	19.675	121.096667		
	19.583333	121.045		
	19.176667	119.391667		
	19.053688	119.409981		
	18.897297	119.448296		
	18.744661	119.500699		
	18.596926	119.566753		
	18.455209	119.645934		
	18.32057	119.737607		
	18.194009	119.841076		
	18.076468	119.955541		
	17.968833	120.080116		
	17.871905	120.213883		
	17.786392	120.355814		
	17.712933	120.504858		
	17.652083	120.65991		
	17.604278	120.819809		
	17.573333	120.963333		
	R861, R862, R863 and R864			
	20.820556	113.542778		
	21.606944	113.846944		
	21.628026	113.79173		
21.654866	113.736287			

21.686106	113.68353
21.721515	113.63387
21.760812	113.587675
21.803713	113.545289
21.849892	113.507046
21.898995	113.47324
21.950659	113.444121
22.004485	113.419919
22.060077	113.400824
22.117007	113.386991
22.174834	113.378515
22.233141	113.375493
22.291457	113.377924
22.349368	113.385826
22.406403	113.399121
22.462156	113.417729
22.516174	113.441504
22.568061	113.470287
22.617411	113.503841
22.663855	113.541929
22.707023	113.584263
22.746592	113.630507
22.782259	113.680323
22.813746	113.733334
22.840805	113.789111
22.863611	113.848333
23.648889	113.537778
24.590556	113.160556
24.589029	113.156342
24.503862	112.936098
24.40117	112.725129
24.281786	112.525089
24.146651	112.337557
23.996851	112.16396
23.833562	112.005636
23.658084	111.863772
23.471786	111.739396
23.276127	111.63341
23.072634	111.546571
22.862883	111.479434
22.648498	111.432447
22.431115	111.405863
22.212406	111.399788
21.99403	111.414179
21.777635	111.448832
21.564865	111.503391
21.357303	111.577368
21.15651	111.670129

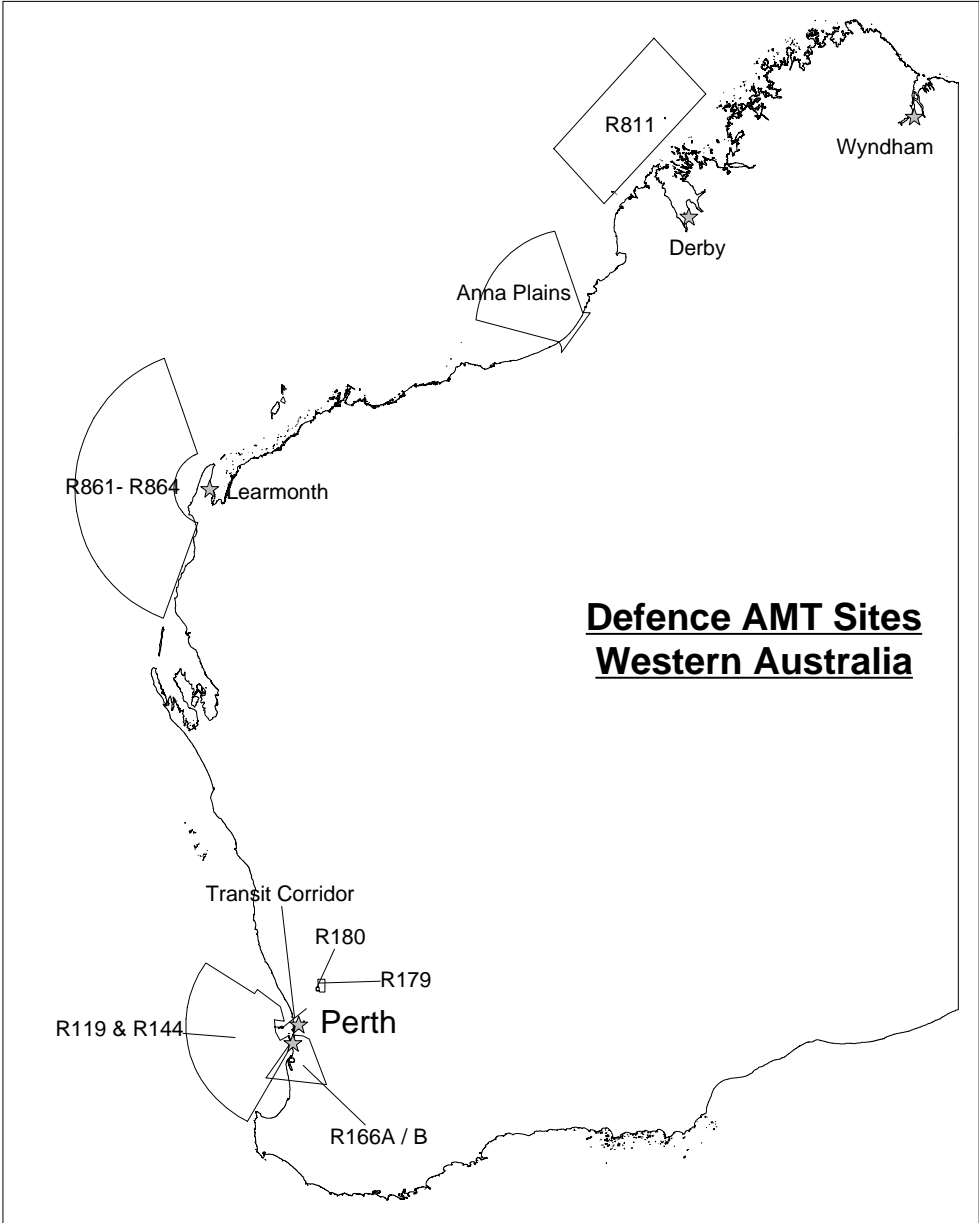
20.963979	111.780916
20.781146	111.908824
20.609349	112.052866
20.449876	112.211936
20.303874	112.384809
20.172438	112.570188
20.056521	112.766695
19.956969	112.97287
19.876389	113.181667
R811	
16.073889	120.938056
14.074167	122.94
15.0825	123.971389
17.074444	121.938333

3.2.3 Receiver Parameters - Perth Area

The AMT receiver located in the Perth area does not require protection.

3.2.4 Receiver Parameters - North West

The AMT receiver located in the North West does not require protection.



3.3 South Australia

Defence operates AMT systems in the area known as the Woomera Prohibited Area. This area consists of Restricted Areas R237, R240, R250A, R250B, R250C, R260, R283, and R284 and a transit corridor between RAAF Base Edinburgh and the Prohibited Area.

In addition to the Woomera Prohibited Area, transmissions frequently occur in Restricted Area R265 and may occasionally occur in Restricted Areas R261, R263, R279 and R281.

The tables below provides relevant parameters to assist fixed link planners to assess the risk of interference associated with the operation of Defence AMT systems and identifies the level of protection required by the associated AMT receiver.

3.3.1 Transmitter Parameters - Woomera Prohibited Area

Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	[TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	34.70333	138.62	[TBA]	[TBA]
	31.582139	137.009936		
	31.197417	137.3578		
Areas	Latitude S	Longitude E	Altitude	Speed
	R237		[TBA]	[TBA]
	27.833333	133.833333		
	28.566667	133.833333		
	29.116667	134.366667		
	28.133333	132		
	27.833333	132		
	R240			
	31.061667	136		
	30.5	136		
	30.5	136.5		
	31	136.75		
	31.25	136.683333		
	31.25	136.283333		
	31.111667	136.214167		
	R250A			
	30.044444	136		
	30.133333	136.25		

30.678333	137.009722
31.581389	137.009722
31.387778	136.352222
31.111667	136.214167
31.061667	136
R250B	
28.556111	133
29.116667	134.366667
29.333333	134.65
29.55	135.333333
29.966667	135.783333
30.044444	136
31.061667	136
30.561667	133.921944
30.501389	133
R250C	
28.133333	131.5
28.133333	132
28.556111	133
30.501389	133
30.430278	132.26
30.083333	132
29.9	131.5
R260	
30.678333	137.009722
30.678333	137.333889
30.866667	137.4
31.197222	137.357222
31.581389	137.009722
R283	
29.116667	134.366667
29.116667	134.95
28.716667	135.166667
28.716667	135.75
29.3	136.6
30.325556	136.983056
30.420556	136.81
30.514444	136.779722
30.133333	136.25
29.966667	135.783333
29.55	135.333333
29.333333	134.65
R284	
30.678333	137.009722
30.514444	136.779722
30.420556	136.81
30.325556	136.983056
30.396667	137.009722

30.533333	137.283333	
30.678333	137.333889	

3.3.2 Transmitter Parameters - Other South Australia Areas

Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	[TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	[TBA]	[TBA]	[TBA]	[TBA]
Areas	Latitude S	Longitude E	Altitude	Speed
	R261		[TBA]	[TBA]
	34.439722	138.173056		
	34.767778	138.476389		
	34.952222	138.301667		
	34.968611	137.81528		
	34.893987	137.818322		
	34.843529	137.826812		
	34.793866	137.840597		
	34.745378	137.859563		
	34.698436	137.88355		
	34.653393	137.912367		
	34.610585	137.945579		
	34.570331	137.983575		
	34.532945	138.025407		
	34.498704	138.070991		
	34.46786	138.119958		
	R263			
	32.573056	137.625		
	32.545556	137.676111		
	32.551944	137.710556		
	32.557222	137.717778		
	32.604444	137.736667		
	32.624444	137.736389		
	32.6175	137.656667		
	32.603333	137.656667		
	R265			
	34.438333	139.000833		
	34.6	138.875		
	34.763333	138.618611		
	34.772222	138.593333		
	34.774722	138.570278		

34.726944	138.524167
34.336389	138.375278
34.133333	138.298611
33.893889	138.208611
33.335278	138.000833
33.333082	138.00963
33.302152	138.179168
33.283508	138.351186
33.277281	138.524442
33.283507	138.697699
33.302148	138.86971
33.333076	139.03925
33.376066	139.205079
33.430803	139.366016
33.496887	139.520875
33.541799	139.610415
33.571667	139.664722
34.065278	139.288611
34.276389	139.125833
R279	
35.362222	136.555833
35.302222	136.88
35.314844	136.979164
35.217347	137.157144
35.216192	137.379533
35.137158	137.572578
35.125819	137.764194
34.968975	137.814919
34.960556	138.058611
34.979513	138.059884
35.012725	138.065005
35.045444	138.073632
35.077426	138.085702
35.083889	138.088611
35.590833	137.3925
35.590789	137.311325
35.696003	136.809825
35.72325	136.718611
35.638291	136.671288
35.502746	136.606238
35.419357	136.574326
R281	
36.869722	137.068889
36.257222	137.516667
36.166667	138.166667
35.761111	138.300833
35.674167	139.024167
37.065833	139.636667

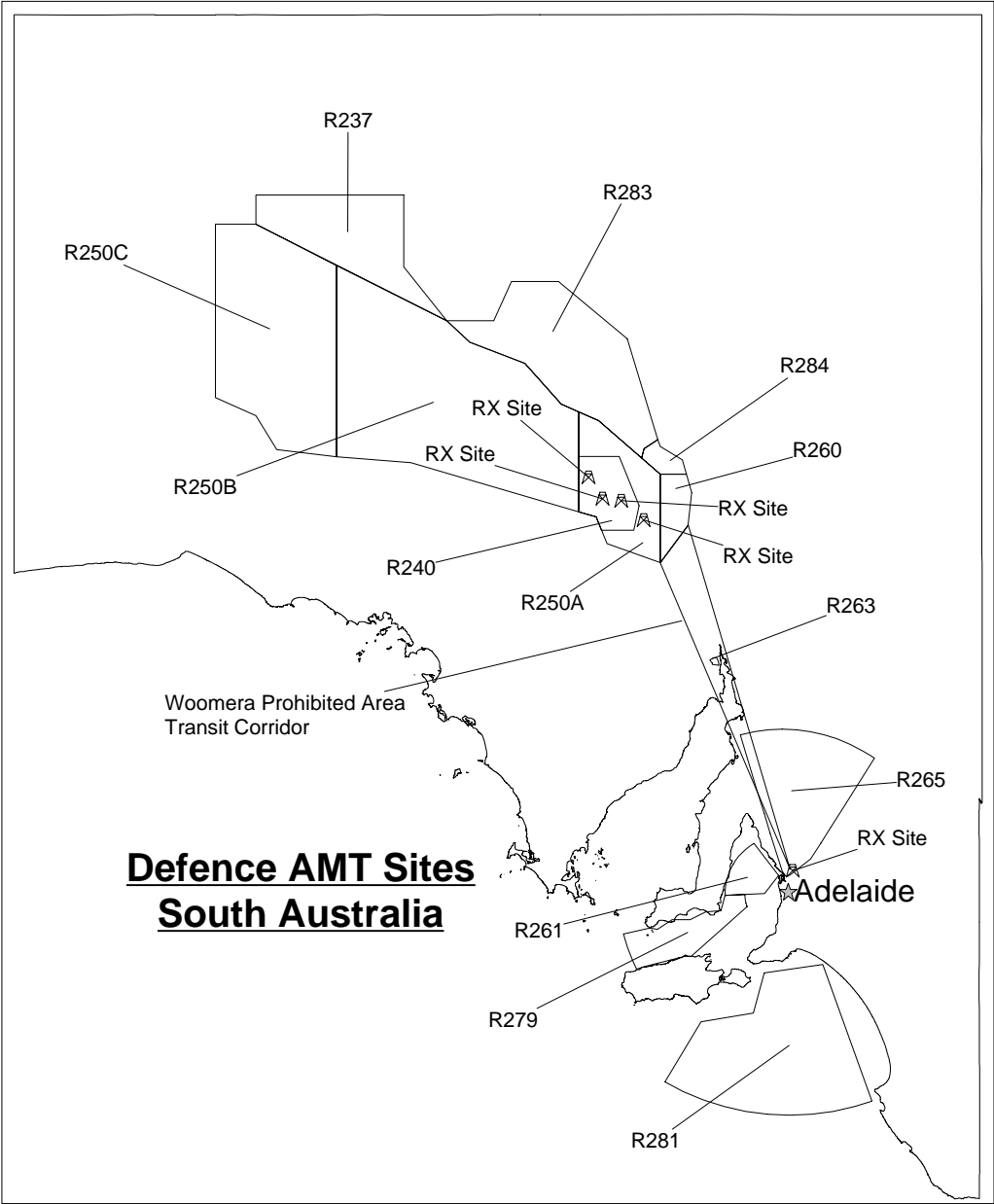
37.120408	139.421307
37.169133	139.155487
37.198529	138.885142
37.20836	138.612511
37.198528	138.339872
37.16913	138.069518
37.120413	137.803705
37.052769	137.544617
36.966769	137.294414

3.3.3 Receiver Parameters - Woomera Prohibited Area

Parameter	Value	
Locations	30.949444S 136.527778E 31.146139S 136.805278E 30.711111S 136.122222E 30.928889S 136.122222E	
Antenna Height	5m AGL	
Frequency Range	2200 to 2300 MHz	
Protection Level	pfd (dBW/m ² /MHz)	Arrival Azimuth θ° (True)
	-135	All Angles

3.3.4 Receiver Parameters - Other South Australia Areas

Parameter	Value	
Location	34.719389S 138.651417E	
Antenna Height	5m AGL	
Frequency Range	2200 to 2300 MHz	
Protection Level	pfd (dBW/m ² /MHz)	Arrival Azimuth θ° (True)
	-100	$45^\circ \leq \theta \leq 350^\circ$
	-135	$350^\circ \leq \theta$ or $\theta \leq 45^\circ$



3.4 3.4 Far North

Defence occasionally operates AMT systems in Restricted Areas R202, R227, R230A to R230C, R230D to R230F, R247, and R248.

The tables below provides relevant parameters to assist fixed link planners to assess the risk of interference associated with the operation of Defence AMT systems and identifies the level of protection required by the associated AMT receiver.

3.4.1 Transmitter parameters - Far North

Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	[TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	[TBA]	[TBA]	[TBA]	[TBA]
Areas	Latitude S	Longitude E	Altitude	Speed
	R202		[TBA]	[TBA]
	12.289167	130.503056		
	12.314713	130.495276		
	12.35034	130.487184		
	12.386529	130.482275		
	12.423007	130.480596		
	12.459476	130.482164		
	12.495683	130.486952		
	12.531339	130.494941		
	12.566172	130.506056		
	12.59992	130.520234		
	12.63233	130.537345		
	12.663149	130.557277		
	12.692133	130.579872		
	12.719083	130.604965		
	12.743775	130.63236		
	12.766027	130.661845		
	12.785669	130.693195		
	12.802548	130.726181		
	12.822222	130.7775		
	13.685	130.448611		
	14.312222	130.208333		
	15.095556	129.905833		
15.095646	129.905015			
14.999622	129.669558			

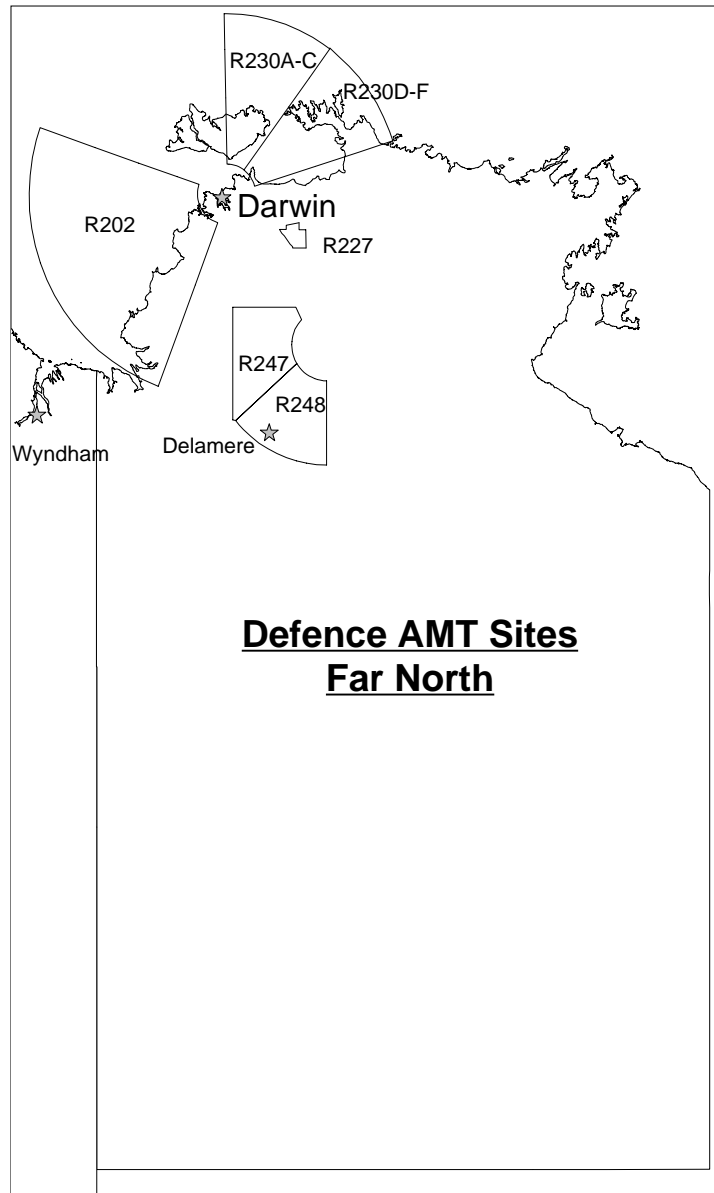
14.883815	129.443829
14.749134	129.229588
14.596644	129.028485
14.427533	128.84207
14.243116	128.671746
14.044846	128.518815
13.834252	128.384387
13.612961	128.269476
13.382695	128.174888
13.145212	128.101299
12.90234	128.049214
12.655933	128.018948
12.407868	128.010678
12.160031	128.024414
11.914314	128.059972
11.672556	128.117033
11.500556	128.171667
11.774722	128.974167
11.9925	129.616944
12.181667	130.180556
R227	
12.823333	131.968889
12.920278	131.968889
12.920278	132.07
13.173056	132.072222
13.173056	131.875
13.155	131.874167
13.122778	131.841389
13.005556	131.755833
12.968333	131.716944
12.918611	131.685
12.918056	131.783611
12.857778	131.783611
R230A to R230C	
12.004722	130.914722
11.083889	130.894167
10.414444	130.879444
9.912222	130.868611
9.911931	130.906387
9.921396	131.127099
9.949749	131.346169
9.996761	131.561972
10.062088	131.772912
10.145238	131.977405
10.2456	132.173944
10.337776	132.324438
10.403889	132.419722
10.808333	132.118611

11.347222	131.716111
12.086944	131.159722
12.076184	131.144237
12.060724	131.119046
12.043882	131.086125
12.029929	131.051843
12.018961	131.016448
12.011067	130.980233
12.006309	130.943445
R230D to R230F	
10.387222	132.419722
10.494972	132.537185
10.641967	132.701266
10.80247	132.851955
10.975269	132.988092
11.15908	133.108647
11.352518	133.212675
11.554136	133.299369
11.683611	133.344444
11.836389	132.858889
12.038889	132.210556
12.314722	131.3175
12.279872	131.306394
12.24615	131.292135
12.213779	131.274943
12.18301	131.254949
12.154059	131.232321
12.127167	131.207208
12.102523	131.179822
12.086944	131.159722
R247	
15.566389	131
14	131
14	131.923056
14.171944	132.0075
14.198016	131.983494
14.23272	131.9561
14.269623	131.931894
14.308433	131.911076
14.348871	131.893793
14.390619	131.880191
14.433368	131.87037
14.476783	131.864403
14.52054	131.862341
14.564312	131.864195
14.607755	131.869969
14.650536	131.879607
14.692347	131.893051

14.732845	131.910187
14.771742	131.930891
14.780833	131.936389
15.575556	131.040278
R248	
16.194722	132.376667
16.188309	132.226856
16.169109	132.077124
16.137264	131.929723
16.093036	131.78582
16.036766	131.646516
15.968884	131.512906
15.889928	131.386015
15.800505	131.266819
15.701314	131.156231
15.63743	131.094355
15.575556	131.040278
14.780833	131.936389
14.808668	131.955095
14.843463	131.982436
14.875793	132.012802
14.905429	132.045956
14.93214	132.081647
14.955715	132.119601
14.975976	132.159539
14.992776	132.201148
15.005972	132.244102
15.015469	132.288095
15.021201	132.332762
15.023056	132.376667

3.4.2 Receiver Parameters - Far North

The AMT receiver located in the Far North does not require protection.



3.5 Queensland

Defence operates AMT systems in South East Queensland in Restricted Areas R665, R677A, R677B and R693. Restricted Areas R677A and R677B are used more frequently than R665 and R693.

Defence also operates AMT systems in the Shoal Water Bay Training Area in Restricted Areas R682, R683, R684, R687, R689, and R695. Operation may occur during any Defence activity in the area.

Defence AMT systems operate on rare occasions in Far North Queensland in Restricted Areas R471, R472, R767, R778, R783, R784A and R784B. Increased activity is likely in Restricted Areas R741 and R742 in the future.

The tables below provides relevant parameters to assist fixed link planners to assess the risk of interference associated with the operation of Defence AMT systems and identifies the level of protection required by the associated AMT receiver.

3.5.1 Transmitter Parameters - South East Queensland

Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	[TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	[TBA]	[TBA]	[TBA]	[TBA]
Areas	Latitude S	Longitude E	Altitude	Speed
	R665		[TBA]	[TBA]
	25.826389	152.861667		
	25.808333	152.937500		
	25.813056	152.966667		
	25.831389	152.970000		
	25.941667	152.970000		
	25.959444	152.901667		
	R677A and R677B			
	27.333333	154		
	25.75	154		
	25.75	155.271111		
	25.909186	155.410413		
	26.091448	155.544162		
	26.283442	155.660231		
	26.483744	155.757686		
	26.690877	155.835691		

26.903295	155.893571
27.119406	155.930783
27.333333	155.946667
27.556201	155.941759
27.773565	155.915186
27.988023	155.867293
28.197933	155.798316
28.401653	155.708673
28.597611	155.598937
28.784259	155.469856
28.960139	155.322354
29.083333	155.201111
29.083333	155.173056
28.750833	154
R693	
24.4	152.133333
24.183333	152.516667
24.466667	152.966667
24.683333	152.566667

3.5.2 Transmitter Parameters – Shoal Water Bay Training Area

Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	[TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	[TBA]	[TBA]	[TBA]	[TBA]
Areas	Latitude S	Longitude E	Altitude	Speed
	R682, R683, R684, R687, R689 and R695		[TBA]	[TBA]
	22.166687	150.5		
	22.249778	150.331803		
	22.279174	150.201277		
	22.337826	150.200107		
	22.369531	150.15483		
	22.398813	150.177531		
	22.443731	150.114479		
	22.459937	150.112201		
	22.457819	150.094766		
	22.491394	150.104749		
	22.497605	150.098792		

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Operating in the 2200 to 2300 MHz Frequency Range**

22.550714	150.09088
22.578771	150.09515
22.632869	150.092069
22.645606	150.097635
22.705108	150.144049
22.728688	150.150371
22.753686	150.23744
22.765399	150.236231
22.765517	150.243042
22.803638	150.203332
22.805851	150.226653
22.849077	150.220907
22.853877	150.237366
22.837343	150.326321
22.844546	150.325206
22.84974	150.366011
22.858941	150.376548
22.832835	150.380945
22.844289	150.475202
22.8849	150.474451
22.893129	150.538607
22.912036	150.535342
22.897605	150.595043
22.85042	150.579315
22.842739	150.608672
22.813071	150.616982
22.759017	150.624735
22.758028	150.618912
22.750821	150.62001
22.743947	150.64349
22.757631	150.715294
22.74416	150.720385
22.758374	150.767852
22.770232	150.776422
22.782287	150.86581
22.801876	150.983349
22.331954	150.749953

3.5.3 Transmitter Parameters – Far North Queensland

Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	[TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	[TBA]	[TBA]	[TBA]	[TBA]
Areas	Latitude S	Longitude E	Altitude	Speed
	R741		[TBA]	[TBA]
	19.583333	146.075		
	19.5	146.183333		
	19.500556	146.194444		
	19.494722	146.332778		
	19.575833	146.345833		
	19.609722	146.4		
	19.75	146.4		
	19.75	146.21		
	R742			
	19.316667	146.029167		
	19.100278	146.169722		
	19.271389	146.345278		
	19.440556	146.334167		
	19.369722	146.072222		
	R767			
	17.316667	146.138333		
	17.133333	146.116667		
	17.116667	146.383333		
	17.366667	146.416667		
	17.391667	146.216667		
	R778			
	16.691667	146.25		
	16.5	146.25		
	16.5	146.55		
	16.691667	146.55		
	R783			
	14.55	145.233333		
	14.466667	145.366667		
	14.566667	145.433333		
	14.666667	145.3		
R784A and B				
17.666667	146.058333			

17.544167	146.189722
17.433333	146.308333
17.451303	146.325512
17.47445	146.344075
17.499052	146.360471
17.524939	146.374568
17.551901	146.386263
17.579742	146.39547
17.608242	146.402114
17.637187	146.406148
17.666359	146.407532
17.69554	146.406258
17.724497	146.402334
17.75302	146.395796
17.780894	146.386674
17.807891	146.375061
17.833822	146.361023
17.858478	146.344682
17.88167	146.326153
17.900278	146.308611
17.789444	146.189722

3.5.4 Receiver Parameters - South East Queensland

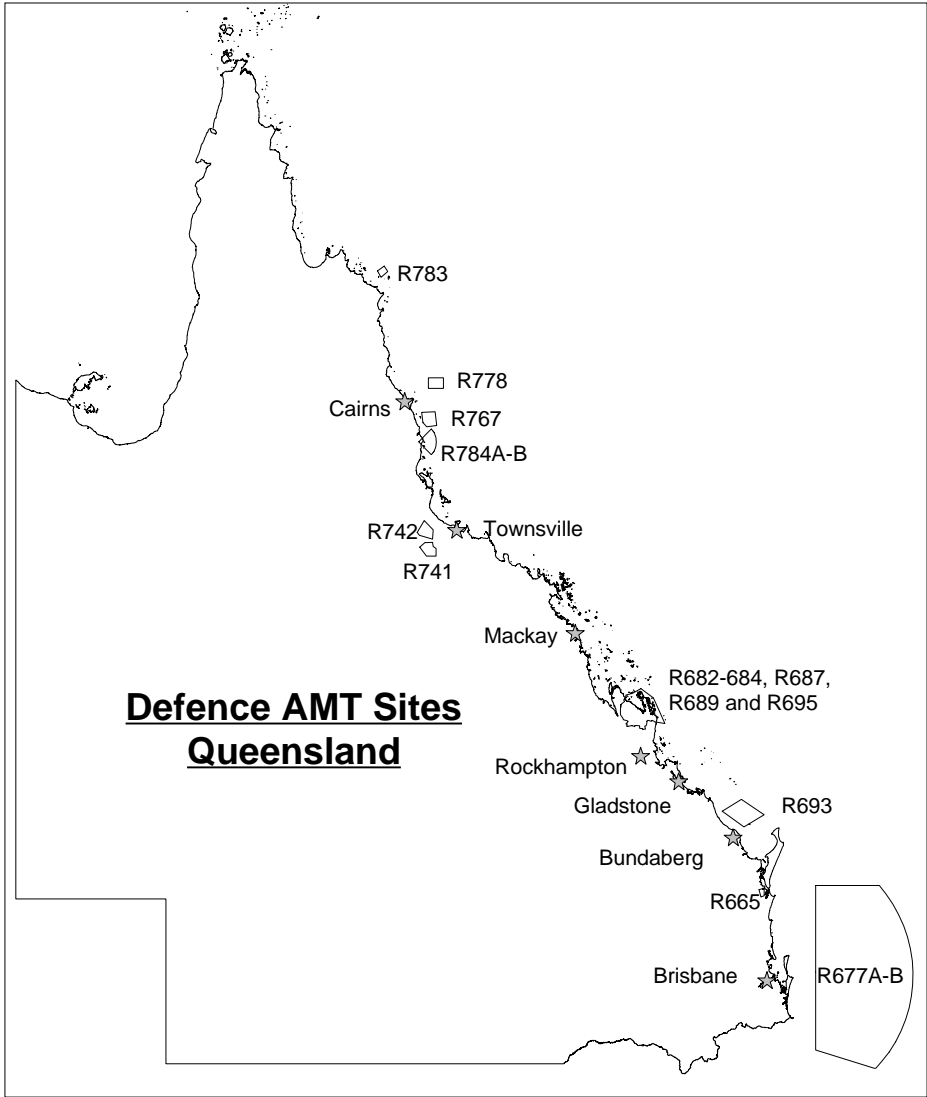
The AMT receiver located in South East Queensland does not require protection.

3.5.5 Receiver Parameters - Shoal Water Bay Training Area

The AMT receiver located in Shoal Water Bay Training Area does not require protection.

3.5.6 Receiver Parameters - Far North Queensland

The AMT receiver located in Far North Queensland does not require protection.



3.6 Tasmania

The Department of Defence occasionally operates AMT systems in Restricted Areas R362 and R370.

The tables below provides relevant parameters to assist fixed link planners to assess the risk of interference associated with the operation of Defence AMT systems and identifies the level of protection required by the associated AMT receiver.

3.6.1 Transmitter Parameters - Tasmania

Parameter	Value			
EIRP	+14dBW maximum +7dBW typical			
Emission Bandwidth	650 KHz to 12 MHz			
Frequency Range	2200 to 2300 MHz			
Number of Operations per Month / Year	[TBA]			
Typical / Maximum Duration of Operation in Area	[TBA]			
Transit Corridor	Latitude S	Longitude E	Altitude	Speed
	[TBA]	[TBA]	[TBA]	[TBA]
Areas	Latitude S	Longitude E	Altitude	Speed
	R362		[TBA]	[TBA]
	41.065	147.068333		
	40.941667	147.091667		
	40.941667	146.9		
	41.052778	146.940278		
	R370			
	42.340556	146.905833		
	42.340278	147.766944		
	42.530278	147.856389		
	42.503333	147.651111		

3.6.2 Receiver Parameters - Tasmania

The AMT receiver located in Tasmania does not require protection.

