



Summary of Estimated RF EME Levels around the Proposed Mobile Phone Base Station at 1401 Old Mandurah Rd BALDIVIS WA 6171, Baldivis West WA

Introduction:

Date 9/6/2009

NSA Site No (6171004)

This report summarises the estimated maximum cumulative radiofrequency (RF) electromagnetic energy (EME) levels at ground level emitted from the proposed Mobile Phone Base Station antennas at 1401 Old Mandurah Rd BALDIVIS WA 6171 Baldivis West WA. Maximum EME levels are estimated in 360° circular bands out to 500m from the base station. The procedures for making the estimates have been developed by the Australian Radiation Protection And Nuclear Safety Agency (ARPANSA)¹. These are documented in the ARPANSA Technical Report; "Radio Frequency EME Exposure Levels - Prediction Methodologies" which is available at <http://www.arpansa.gov.au>

EME Health Standard

ARPANSA, an Australian Government agency in the Health and Ageing portfolio has established a Radiation Protection Standard² specifying limits for continuous exposure of the general public to RF transmissions at frequencies used by mobile phone base stations. Further information can be gained from the ARPANSA web site.

The Australian Communications and Media Authority (ACMA)³ mandates exposure limits for continuous exposure of the general public to RF EME from mobile phone base stations. Further information can be found at the ACMA website <http://emr.acma.gov.au>

Proposed Site Radio Systems

Telstra WCDMA850

Table of Predicted EME Levels – Proposed

Distance from the antennas at 1401 Old Mandurah Rd BALDIVIS WA 6171 in 360° circular bands	Maximum Cumulative EME Level – All carriers at this site (% of ARPANSA exposure limits ²) Public exposure limit = 100%
0m to 50m	0.0015%
50m to 100m	0.0034%
100m to 200m	0.005%
200m to 300m	0.024%
300m to 400m	0.036%
400m to 500m	0.034%
<i>Maximum EME level</i> 360.59 m, from the antennas at 1401 Old Mandurah Rd BALDIVIS WA 6171	0.036%

Table: Estimation for the maximum level of RF EME at 1.5m above the ground from the proposed antennas assuming level ground. The estimated levels have been calculated on the maximum mobile phone call capacity anticipated for this site. This estimation does not include possible radio signal attenuation due to buildings and the general environment. The actual EME levels will generally be significantly less than predicted due to path losses and the base station automatically minimising transmitter power to only serve established phone calls⁵. Where applicable, particular locations of interest in the area surrounding the base station, including topographical variations, are assessed in Appendix A " Other areas of Interest" table on the last page.

Summary – Proposed Radio Systems

RF EME levels have been estimated from the proposed antennas at **1401 Old Mandurah Rd BALDIVIS WA 6171** Baldivis West WA. The maximum cumulative EME level at 1.5 m above ground level is estimated to be **0.036 %** of the ARPANSA public exposure limits.

Existing Site Radio Systems

There are currently no existing radio systems for this site.

Reference Notes:

1. The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) is a Federal Government agency incorporated under the Health and Ageing portfolio. ARPANSA is charged with responsibility for protecting the health and safety of people, and the environment, from the harmful effects of radiation (ionising and non-ionising).
2. Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), 2002, 'Radiation Protection Standard: Maximum Exposure Levels to Radiofrequency Fields — 3 kHz to 300 GHz', Radiation Protection Series Publication No. 3, ARPANSA, Yallambie Australia. [Printed version: ISBN 0-642-79400-6 ISSN 1445-9760] [Web version: ISBN 0-642-79402-2 ISSN 1445-9760]
3. The Australian Communications and Media Authority (ACMA) is responsible for the regulation of broadcasting, radiocommunications, telecommunications and online content. Information on EME is available at <http://emr.acma.gov.au/>
4. The EME predictions in this report assume a near worst-case scenario including:
 - base station transmitters operating at maximum power (no automatic power reduction)
 - simultaneous telephone calls on all channels
 - an unobstructed line of sight view to the antennas.In practice a worst-case scenario is rarely the case. There are often trees and buildings in the immediate vicinity, and cellular networks automatically adjust transmit power to suit the actual telephone traffic. The level of EME may also be affected where significant landscape features are present and predicted EME levels might not be the absolute maximum at all locations.
5. Further explanation of this report may be found in "Understanding the ARPANSA Environmental EME Report" and other documents on the ARPANSA web site, <http://www.arpansa.gov.au>

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Appendix A

Table of Other Areas of Interest

Additional Locations	Assessment
ACIF Code Section 5.5 -community consultation plan new sites Topography/Buildings Other (e.g. significant previous community concern)	Existing Site Update - No additional locations identified refer to previous table for the environmental EME assessment No locations identified No locations identified

Estimation Notes / Assumptions – Other Areas of Interest

Variable ground topography has been included in the assessment of the "Other Areas of Interest" as per ARPANSA methodology