

Environmental EME Report

Location	RNA Exhibition Grounds, South west side of showing, BOWEN HILLS QLD 4006		
Date	18/05/2022	RFNSA No.	4006005

How does this report work?

This report provides a summary of levels of radiofrequency (RF) electromagnetic energy (EME) around the wireless base station at RNA Exhibition Grounds, South west side of showing, BOWEN HILLS QLD 4006. These levels have been calculated by Nokia using methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

A document describing how to interpret this report is available at ARPANSA's website:

[A Guide to the Environmental Report.](#)

A snapshot of calculated EME levels at this site

The maximum EME level calculated for the **existing** systems at this site is

2.18%

out of 100% of the public exposure limit, 118 m from the location.

The maximum EME level calculated for the **proposed** changes at this site is

6.60%

out of 100% of the public exposure limit, 98 m from the location.



EME levels with the proposed changes

Distance from the site	Percentage of the public exposure limit
0-50 m	2.10%
50-100 m	6.60%
100-200 m	6.51%
200-300 m	2.20%
300-400 m	0.82%
400-500 m	0.43%

For additional information please refer to the EME ARPANSA Report annexure for this site which can be found at <http://www.rfnsa.com.au/4006005>.

Radio systems at the site

This base station currently has equipment for transmitting the services listed under the existing configuration. The proposal would modify the base station to include all the services listed under the proposed configuration.

Carrier	Existing		Proposed	
	Systems	Configuration	Systems	Configuration
Vodafone	3G, 4G	LTE850, WCDMA900, LTE1800, LTE2100, NB-IOT900	3G, 5G	NR/LTE700 (proposed), NR/LTE1800, NR3500 (proposed), WCDMA900, NR/LTE850, NR/LTE2100, NB-IOT900
Optus	3G, 4G	LTE700, WCDMA900, LTE1800, WCDMA2100, LTE2300, LTE2600	3G, 4G, 5G	NR3500 (proposed), LTE700, LTE900 (proposed), WCDMA900, LTE1800, NR/LTE2100 (proposed), LTE2300, LTE2600, NR2300 (proposed)

An in-depth look at calculated EME levels at this site

This table provides calculations of RF EME at different distances from the base station for emissions from existing equipment alone and for emissions from existing equipment and proposed equipment combined. All EME levels are relative to 1.5 m above ground and all distances from the site are in 360° circular bands.

Distance from the site	Existing configuration			Proposed configuration		
	Electric field (V/m)	Power density (mW/m ²)	Percentage of the public exposure limit	Electric field (V/m)	Power density (mW/m ²)	Percentage of the public exposure limit
0-50m	4.08	44.25	0.63%	8.48	190.88	2.10%
50-100m	7.00	129.87	1.87%	13.91	513.07	6.60%
100-200m	7.59	152.77	2.18%	13.87	510.31	6.51%
200-300m	5.03	67.13	0.96%	8.08	173.38	2.20%
300-400m	3.08	25.15	0.36%	4.96	65.27	0.82%
400-500m	2.18	12.59	0.19%	3.57	33.88	0.43%

Calculated EME levels at other areas of interest

This table contains calculations of the maximum EME levels at selected areas of interest, identified through consultation requirements of the [Communications Alliance Ltd Deployment Code C564:2020](#) or other means. Calculations are performed over the indicated height range and include all existing and any proposed radio systems for this site.

Maximum cumulative EME level for the proposed configuration

Location	Height range	Electric field (V/m)	Power density (mW/m ²)	Percentage of the public exposure limit
Residential Multistory dwelling	0-21 m	16.99	765.93	9.37%
Residential Multistory Dwelling	0-15 m	4.12	45.11	0.59%
Child Care Centre	0-3 m	3.11	25.73	0.31%
Medical Research	0-48 m	2.81	20.96	0.25%