

Appendix D

***Compliance Statement: National Environmental
Standard for Telecommunications Facilities***

Notice and Report-Statement of Compliance

Submitted in accordance with clause 4 of the Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2008.

Site Code: C2MNA

Site Name: Manaia

Site Address: 1038 Manaia Rd, Manaia

Author:	Olatz Ibanez- RF Design Engineer
Reviewed By:	Robin Chiang - RF Design Engineer
Approved By:	Thorsten Teichmann
Date:	25 th August 2015

RF Human Exposure Limits

The New Zealand Government has produced a national standard for exposure to RF transmissions.

This is encompassed in the New Zealand Standard NZS2772.1.1999 which permits a maximum exposure level to Radio Frequency Fields 3KHz to 300GHz.

Compliance Certification

The Vodafone cell site C2MNA Manaia will operate in compliance with the New Zealand Standard.

The calculations used to confirm compliance were made in accordance with the requirements described in the new Australian/New Zealand Standard AS/NZS2772.2.2011.

The location and the site type ensure that there is no area in front of the face of the antenna that is accessible to the public. Therefore the associated radio frequency fields, including any cumulative effects, are not expected to reach or exceed 25% of the maximum level authorized by NZS2772.1.1999 in areas accessible to general public.

In addition, this report has been prepared in accordance with NZS 6609.2: 1990 Radiofrequency Radiation: Part 2: Principles and Methods of Measurement 300 kHz to 100 GHz, and as such meets Clause 4(4)(b)(i) of the NES.

Best Engineering Practice

Clause 10 of NZS2772.1.1999 specifies measures for minimizing public exposure to radiofrequency fields. Vodafone NZ achieves compliance with this clause by using best engineering practice and employment of contractors who are certified industry professionals, with extensive health and safety training as required under the Health and Safety Act.

Access Control, RF Warning Signs and Safe Working Procedures will be in place.

This report is prepared based on the RF information provided by the Access Seeker co-location applicant for this specific facility, at time of issue.

Vodafone accepts no responsibility or reliability for information from the Access Seeker co-location applicant that varies from the data contained in this Statement.

Telecommunication equipment considered in this Statement of Compliance and Report:

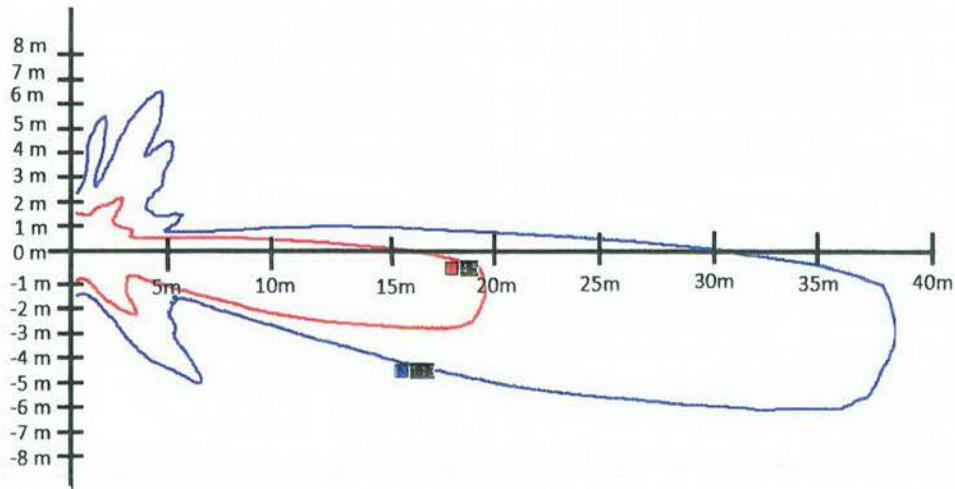
Operator	Equipment	Type	Height on Tower	Amount
Vodafone	Panel antennas	Kathrein 800 10666v01	25m	3
Spark	Panel antennas	Kathrein 80010736	25m	3

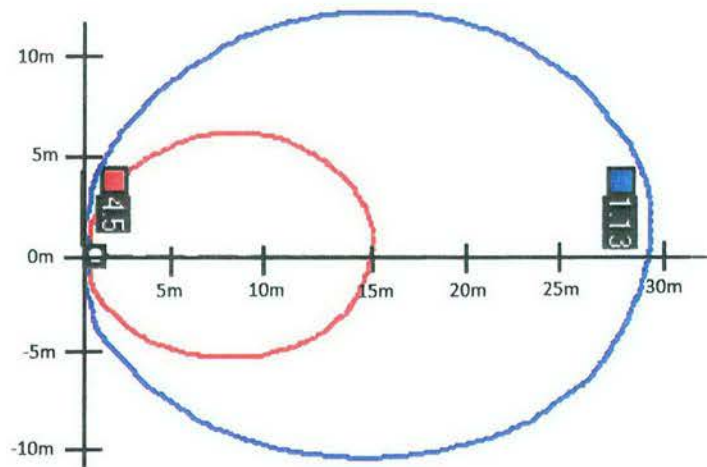
National Environmental Standards Compliance Distance Calculation

Antenna: Kathrein 80010666v01 700/900/1800/2100/2600 MHz

	Red(100%)	Blue (25%)	
Vertical MSD (above antenna's center)	1.8	5.4	m
Vertical MSD (below antenna's center)	2.8	5.5	m
Horizontal MSD	19.0	38.0	m

Antenna Gain	700/900/1800/2100/2600	17/17/18.5/18.5/18.5	dBi
Antenna Line Loss	700/900/1800/2100/2600	0/0/0/0/0	dB
Transmitter Power	700/900/1800/2100/2600	80/120/80/160/80	W
Power Flux Density (100%)	700/900/1800/2100/2600	3.5/4.5/9/10/10	W/m ²
Power Flux Density (25%)	700/900/1800/2100/2600	0.87/1.13/2.25/2.5/2.5	W/m ²





National Environmental Standards Compliance Distance Calculation

Antenna: Kathrein 80010666v01 700/900/1800/2100/2600 MHz

Simulation Parameters (RF Map2)		
Antenna Aperture 700/900/1800/2100/2600	498/498/498/498/498	mm
Combiner Loss	0	dB
Max Down Tilt 700/900/1800/2100/2600	12/12/8/8/8	degree

Standardize to 900MHz

Transmitter Power		
700/900/1800/2100/2600	102.86/140/40/72/36	W
Power Flux Density		
700/900/1800/2100/2600	4.5/4.5/4.5/4.5/4.5	W/m ²
Power Flux Density (25%)		
700/900/1800/2100/2600	1.13/1.13/1.13/1.13/1.13	W/m ²

Standardization Calculations

Power Flux Density:

700 MHz	$80 * 1.2857 = 102.86$ W	$3.5 * 1.2857 = 4.5$ W/m ²
900 MHz	140 W	4.5 W/m ²
1800 MHz	$80 / 2 = 40$ W	$9 / 2 = 4.5$ W/m ²
2100 MHz	$160 / 2.22 = 72$ W	$10 / 2.22 = 4.5$ W/m ²
2600 MHz	$80 / 2.22 = 36$ W	$10 / 2.22 = 4.5$ W/m ²

**Kathrein 80010666**