

Cellular Mast Emissions Survey:

Les Platons (Jersey)



DOCUMENT DETAILS

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Executive Summary

CICRA regularly monitors radiowave emissions from the cellular masts in the Bailiwicks of Guernsey and Jersey to ensure the mobile network operators who operate their services from those masts comply with their license obligations in terms of power levels and that the emissions from the sites comply with internationally recognised standards and guidelines regarding Health & Safety limits for the public.

In 2017, CICRA commissioned iWireless Solutions to conduct the emission surveys at all sites within the two Bailiwicks. This report is for Les Platons site located in Jersey.

Les Platons site was used by all operators at the time of the survey: Airtel J, JT J and Sure J. Surveys were conducted at all cellular frequency bands (800, 900, 1800, 2100 and 2600MHz) for all mobile cellular technologies (GSM, 3G and 4G) and for all three cellular operators as a routine procedure.

The survey established that the emissions around this site were very low and well below the safety limits for the public advised by internationally recognised standards.

The values shown hereafter are the maximum levels that were recorded around the site following a peak search. In most other locations, the levels were lower. The recorded values are only true at the time of testing and can go up or down depending on the level of user activity on the cell.

The Total Exposure Quotient for the site recorded across all detected cellular frequency bands is given at the bottom of the summary table below. A total Site EQ close to 1 (one) would mean that emissions at the site approach the limit advised by ICNIRP in their guidelines.

Site Name	Band [MHz]	Max E-field in band [V/m]	Operator at Max E-field	ICNIRP Limit Relative Max E-field	Band Exposure Quotient	Band EQ Relative to ICNIRP
Les Platons	800	0.05802	Airtel J	670	2.06727E-05	1/ 48373
	900	0.507	Sure J	81	0.000410072	1/ 2439
	1800	0.1083	Sure J	539	7.55632E-05	1/ 13234
	2100	0.06845	Sure J	891	2.97766E-05	1/ 33583
	2600	0.002293	Airtel J	26603	1.20304E-07	1/ 8312307
Total Site EQ					0.000536205	1/ 1865

Table 1 - Cumulative Exposure Quotient

The results show that the cumulative EQ was measured at 1/1865 and therefore remains well below the ICNIRP guidelines.

The graphs which follow show the activity on all the frequency bands surveyed. The plots are colour-coded for easy identification of the three main operators: Airtel J in red, Sure J in dark blue, and Jersey Telecom J in light blue.

The graphs are also supported by the equivalent statistical figures derived from the measured levels at the site for added clarity.

1. Site Details

1.1 Site Location

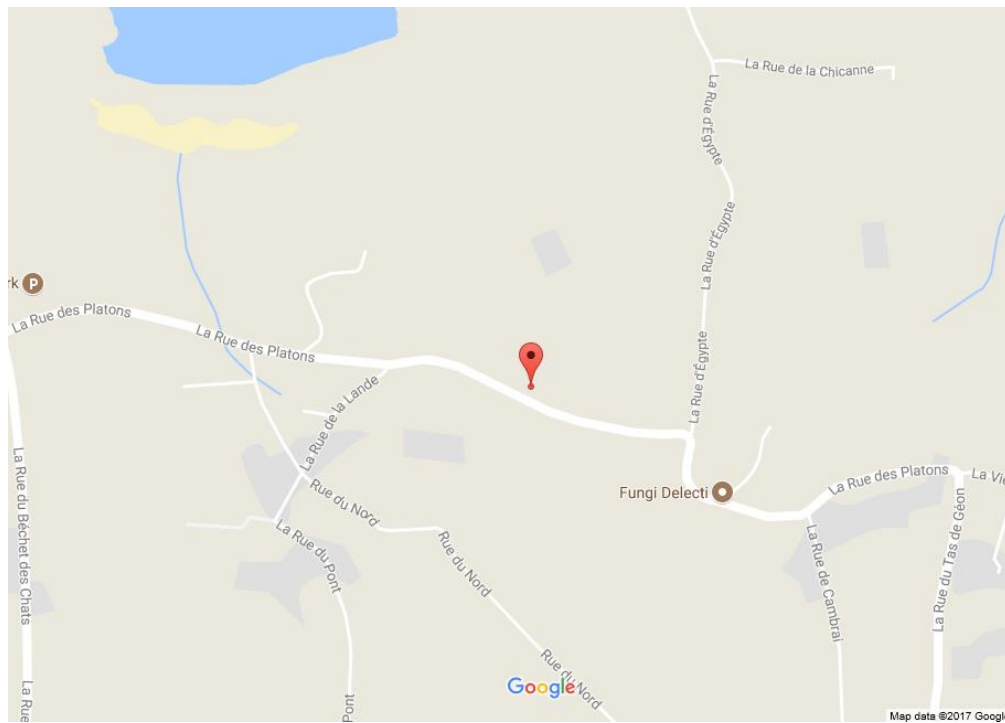


Figure 1 - Map of the Site Area

Site name	Les Platons
Site address	Rue des Platons, Trinity, Jersey
Site Latitude	N 49.24593
Site Longitude	W -2.1016

1.2 Site Description

Operators	Airtel J, JT J, Sure J
Antenna types	Directional
Approximate height	25-44m
Site type	Lattice Mast
Description	The lattice mast as Les Platons is located to the rear of the site within a fenced enclosure; access to the public is restricted.

1.3 Site Photo



Figure 2 – Peak Measurement Location

1.4 Test Location

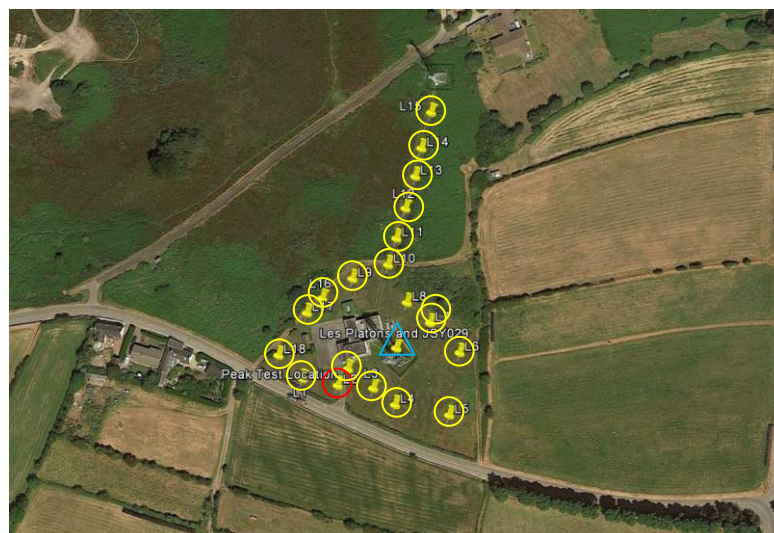


Figure 3- Survey Area with Spot Measurement Markers: The blue triangle is the site location, the yellow circles are intermediate locations measured at during the peak search and the red circle is the spot where the highest spot search reading was obtained and where the detailed survey was carried out

As part of the peak search procedure, spot measurements were taken at locations around the site, as shown on the above sketch. The reported spectrum scans were taken at the peak location (shown in red above) where the highest readings were recorded. The spectrum readings reported further down this report were recorded over a period of 6 minutes as advised by ICNIRP.

2. Survey Results

2.1 800 MHz Band

The graph for the 800 MHz activity is shown below with the E-field strength levels measured at the site plotted on a logarithmic scale.

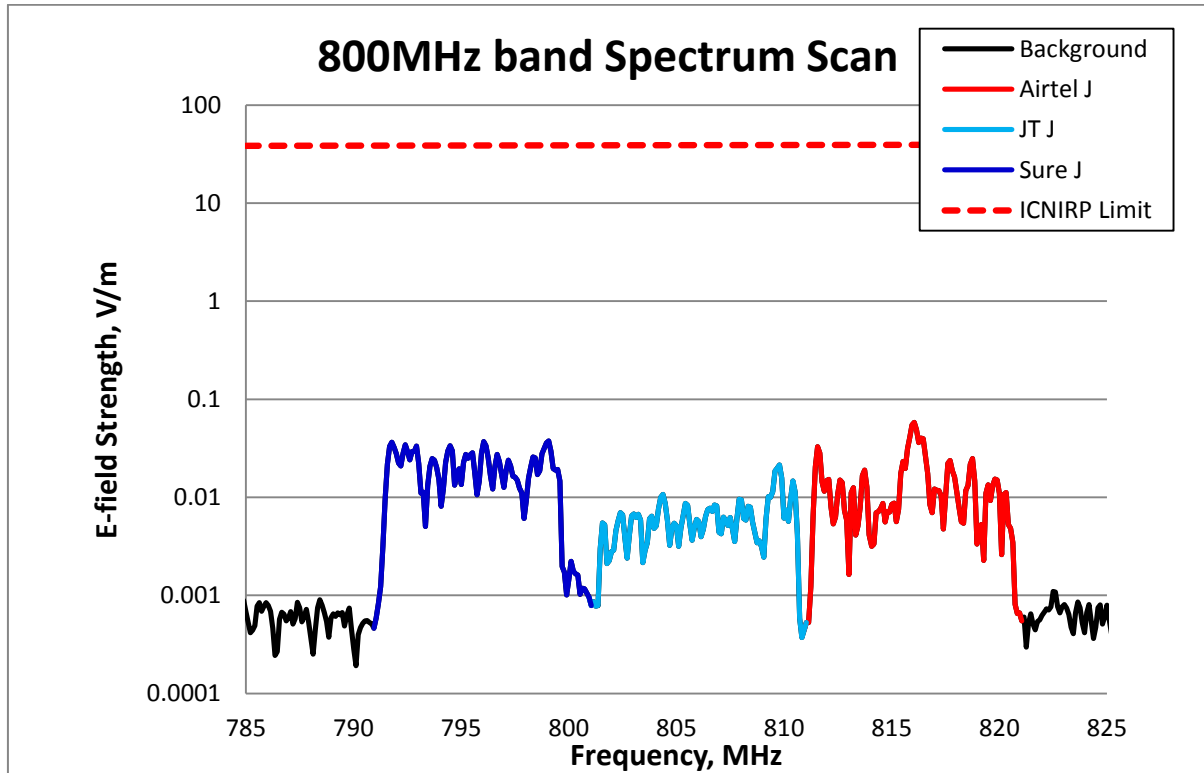


Figure 4 - 800MHz band Spectrum Scan

The red line on the scan represents the Airtel activity, the light blue is JT and the dark blue is Sure. ICNIRP's Reference Level for the General Public is also shown as the straight dashed line at the top of the graph. For clarity, each step on the vertical axis represents a 10-fold increase. The same scaling and colour scheme will be used throughout this report.

No field level recorded across the band was higher than 0.05802 V/m (Airtel J), which is 670 times smaller than the ICNIRP Reference level.

The Exposure Quotient results for the 800MHz band are shown below:

Site Name	Operator	Band [MHz]	Max E-field Strength [V/m]	ICNIRP Limit Relative to Max E-field	Band Exposure Quotient	Band EQ Relative to ICNIRP
Les Platons	Airtel J	800	0.05802	670	7.98157E-06	1/ 125289
	JT J		0.02131	1825	1.33291E-06	1/ 750237
	Sure J		0.03746	1038	1.13582E-05	1/ 88042
total band EQ					2.06727E-05	1/ 48373

Table 2– 800MHz band Exposure Quotient at Les Platons

2.2 900 MHz Band

The graph for the 900 MHz activity is shown below:

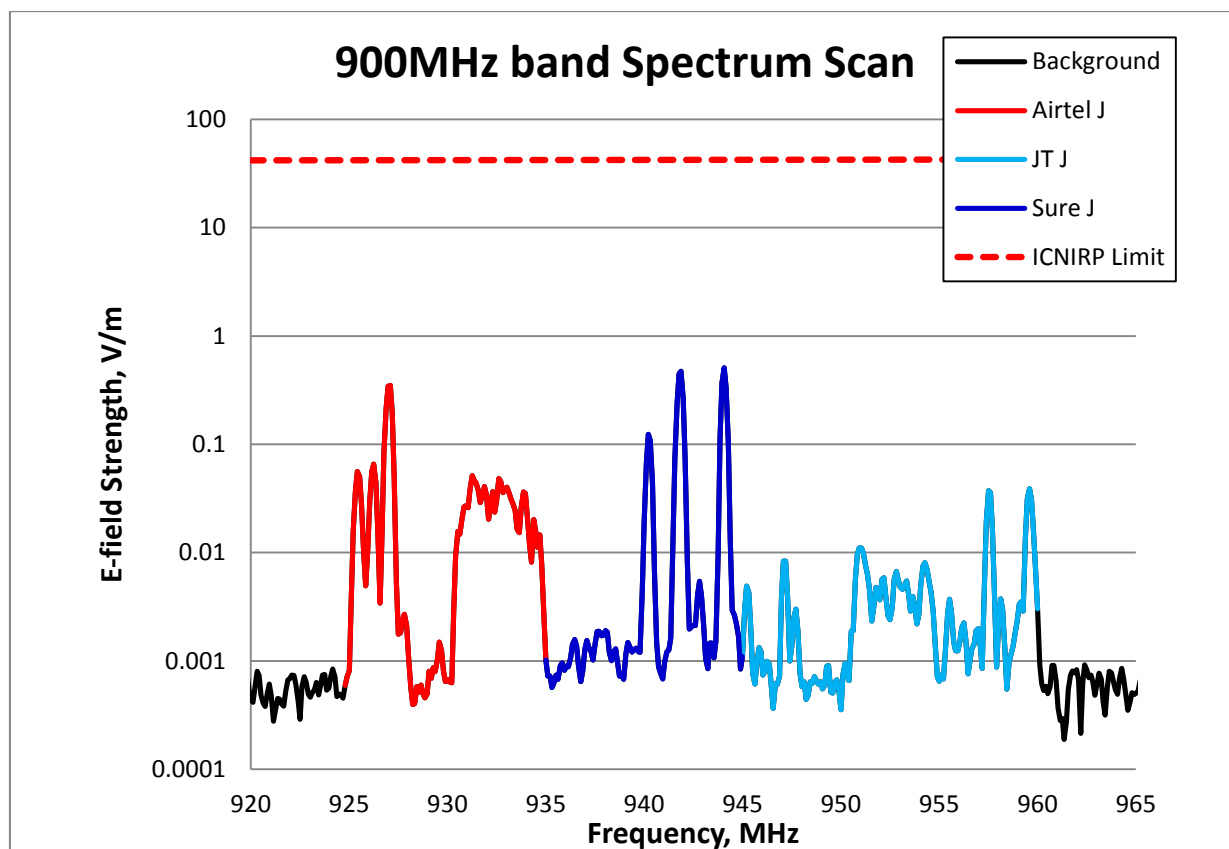


Figure 5 - 900MHz band Spectrum Scan

No field level recorded across the band was higher than 0.507 V/m (Sure J), which is 81 times smaller than the ICNIRP Reference level.

The Exposure Quotient results for the 900MHz band are shown below:

Site Name	Operator	Band [MHz]	Max E-field Strength [V/m]	ICNIRP Limit Relative to Max E-field	Band Exposure Quotient	Band EQ Relative to ICNIRP
Les Platons	Airtel J	900	0.3507	118	0.000105953	1/ 9438
	JT J		0.03873	1065	2.42262E-06	1/ 412776
	Sure J		0.507	81	0.000301696	1/ 3315
total band EQ					0.000410072	1/ 2439

Table 3– 900MHz band Exposure Quotient at Les Platons

2.3 1800 MHz Band

The graph for the 1800 MHz activity around the site is shown below:

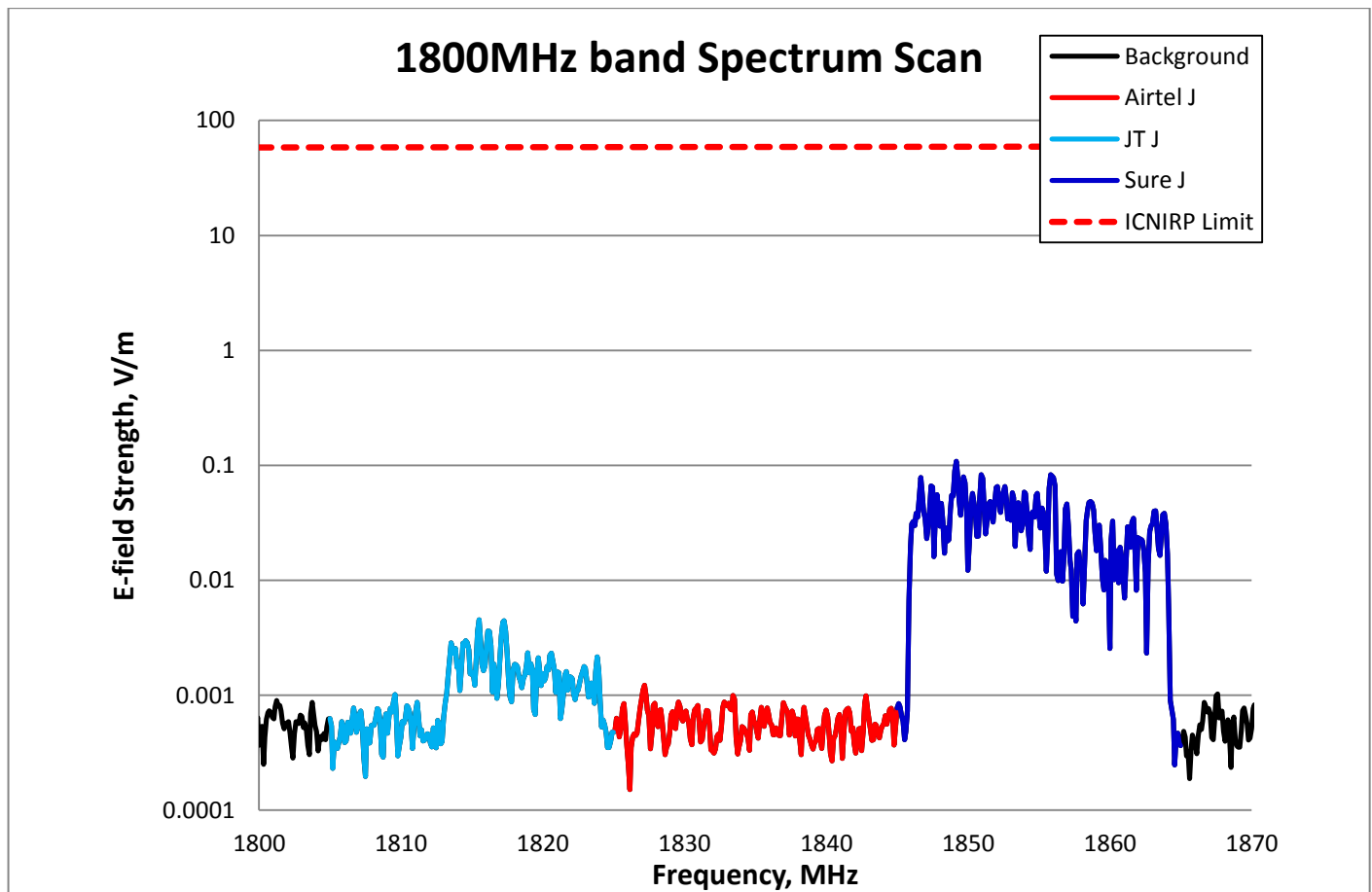


Figure 6 - 1800MHz Spectrum Scan

No field level recorded across the band was higher than 0.1083 V/m (Sure J), which is 539 times smaller than the ICNIRP Reference level.

The Exposure Quotient results for the 1800MHz band are shown below:

Site Name	Operator	Band [MHz]	Max E-field Strength [V/m]	ICNIRP Limit Relative to Max E-field	Band Exposure Quotient	Band EQ Relative to ICNIRP
Les Platons	Airtel J	1800	0.001223	47699	1.8696E-08	1/ 53487467
	JT J		0.004543	12841	1.16518E-07	1/ 8582359
	Sure J		0.1083	539	7.5428E-05	1/ 13258
total band EQ					7.55632E-05	1/ 13234

Table 4 – 1800MHz band Exposure Quotient at Les Platons

2.4 2100MHz Band

The graph for the UMTS activity around the site is shown below:

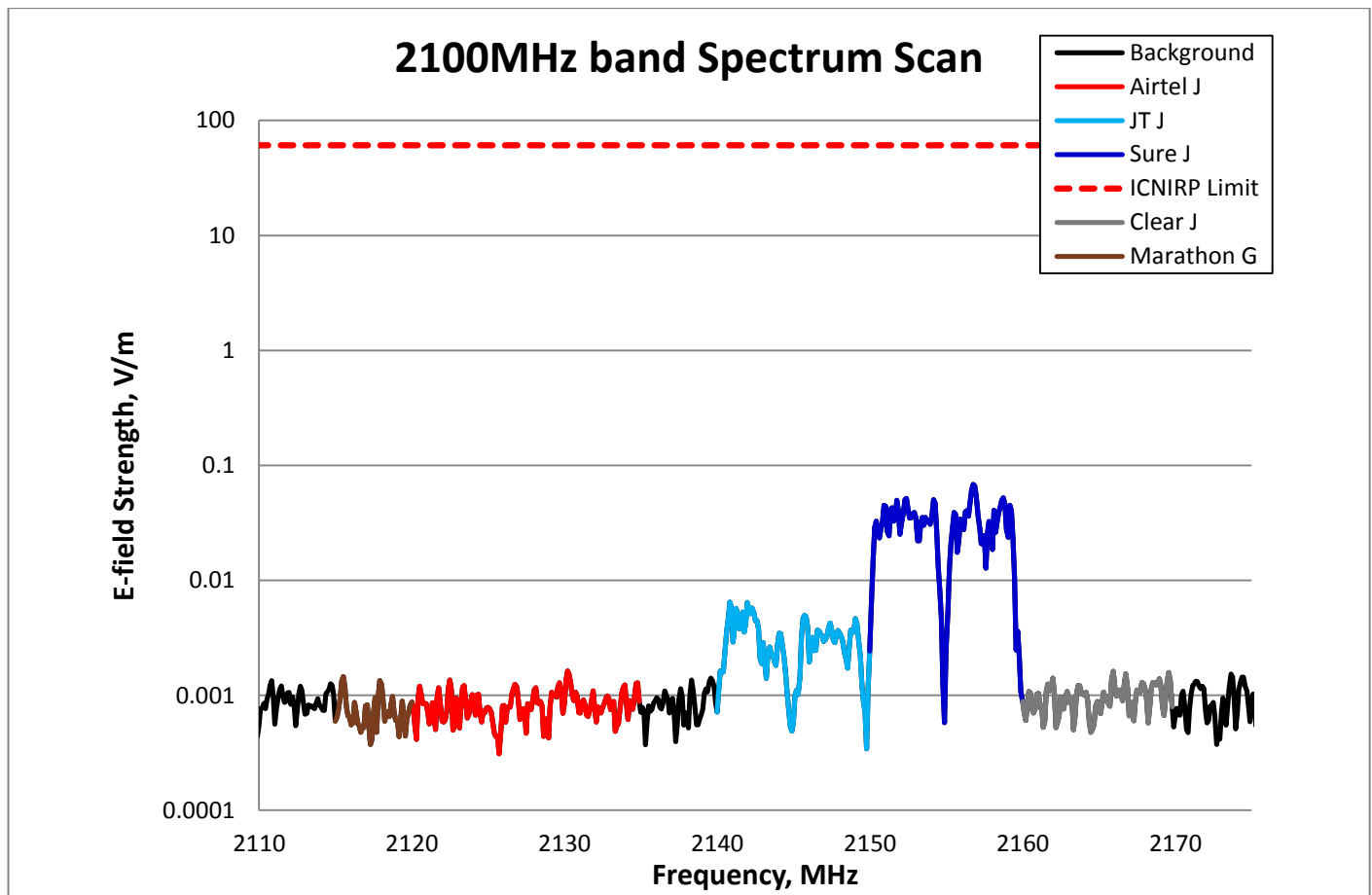


Figure 7 – 2100MHz band Spectrum Scan

No field level recorded across the band was higher than 0.06845 V/m (Sure J), which is 891 times smaller than the ICNIRP Reference level.

The Exposure Quotient results for the 2100MHz band are shown below:

Site Name	Operator	Band [MHz]	Max E-field Strength [V/m]	ICNIRP Limit Relative to Max E-field	Band Exposure Quotient	Band EQ Relative to ICNIRP
Les Platons	Airtel J	2100	0.001629	37446	2.9366E-08	1/ 34052938
	Clear J		0.001624	37562	2.53412E-08	1/ 39461375
	JT J		0.006456	9449	2.85989E-07	1/ 3496636
	Marathon J		0.001452	42011	8.05782E-09	1/ 124103117
	Sure J		0.06845	891	2.94279E-05	1/ 33981
total band EQ					2.97766E-05	1/ 33583

Table 5 – 2100MHz band Exposure Quotient at Les Platons

2.5 2600MHz band

The graph for the 2600MHz band activity around the site is shown below:

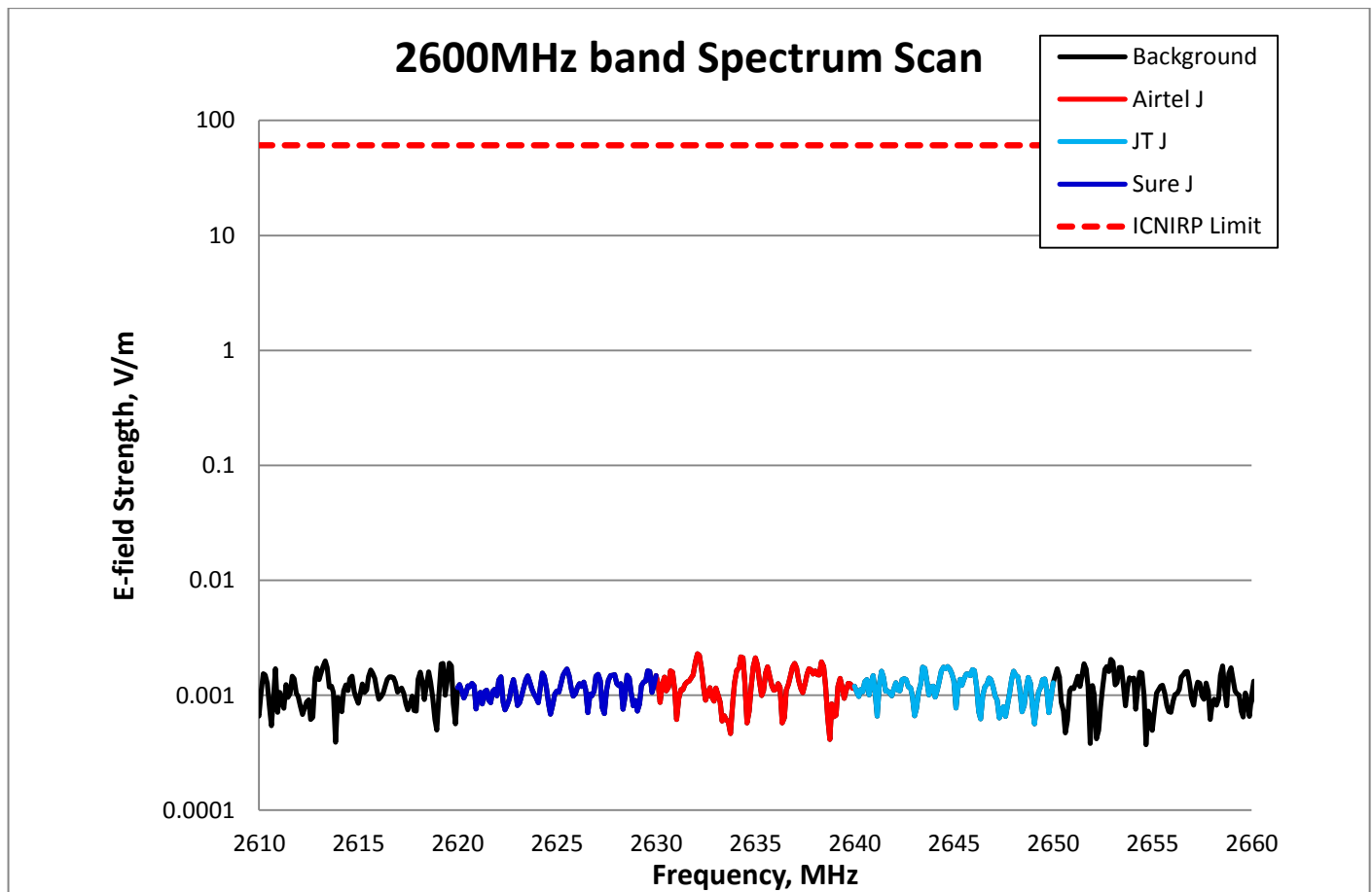


Figure 8 – 2600MHz band Spectrum Scan

No activity was recorded in the 2600MHz as no operator appears to transmit in this band at this site.

The Exposure Quotient results for the 2600MH band are shown below:

Site Name	Operator	Band [MHz]	Max E-field Strength [V/m]	ICNIRP Limit Relative to Max E-field	Band Exposure Quotient	Band EQ Relative to ICNIRP
Les Platons	Airtel J	2600	0.002293	26603	4.59655E-08	1/ 21755451
	JT J		0.001777	34328	3.88862E-08	1/ 25716035
	Sure J		0.001693	36031	3.54518E-08	1/ 28207306
total band EQ					1.20304E-07	1/ 8312307

Table 6 – 2600MHz band Exposure Quotient at Les Platons

End