Cellular Mast Emissions Survey: La Braye Kiosk (Jersey)

DOCUMENT DETAILS

Document Name:	Cellular Mast Emissions Survey: La Braye Kiosk (Jersey)
Survey Date:	05/06/2017 at 12:50
Report issue Date	23/06/2017
Survey Engineer:	Louise Sands
Report Compiled by:	Hadas Goraly - Shay
Checked and Approved by	Bachir Belloul
Authorised for Distribution	Ravi Mondair

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 La Braye Kiosk site located in Jersey.

La Braye Kiosk site was used by a single operator at the time of the survey: JT J. Surveys were however 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
La Braye Kiosk	800	0.006213	JT J	6260	5.83559E-07	1/ 1713624
	900	1.688	JT J	24	0.00205466	1/ 487
	1800	0.01707	Sure J	3417	2.42722E-06	1/ 411994
	2100	0.688	JT J	89	0.003805868	1/ 263
	2600	0.006345	Airtel J	9614	1.16295E-06	1/ 859882
				Total Site EQ	0.005864702	1/ 171

Table 1 - Cumulative Exposure Quotient

The results show that the cumulative EQ was measured at 1/171 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 (JT) 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

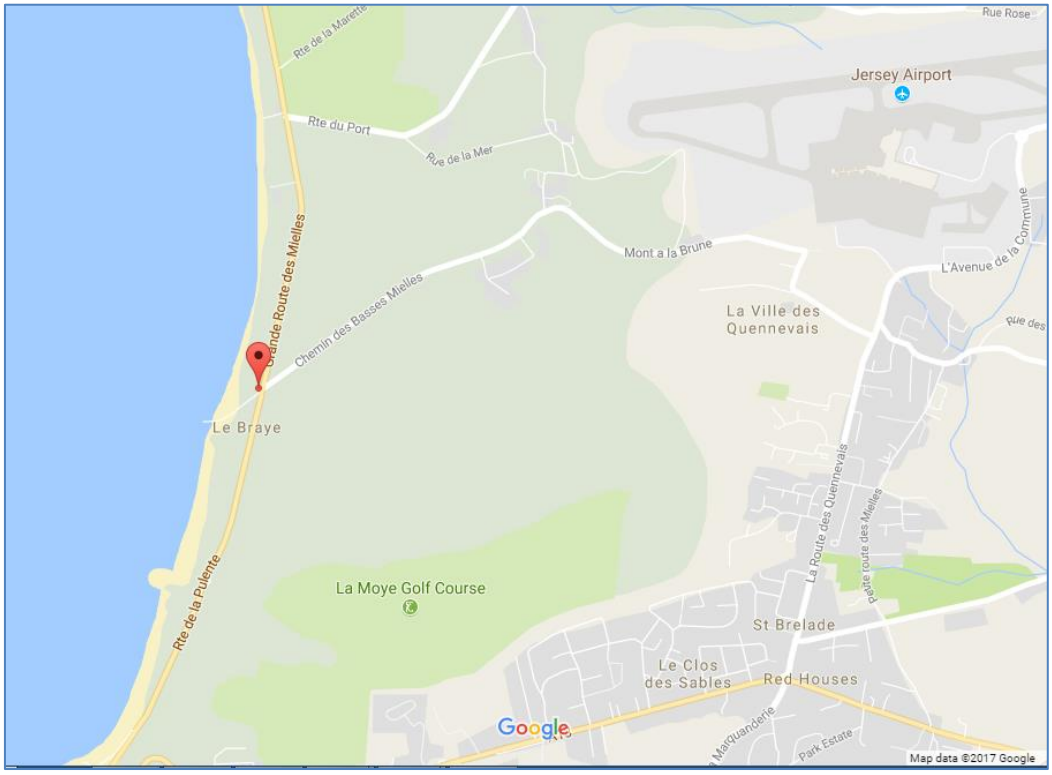

Figure 1 - Map of the Site Area

Site name	La Braye Kiosk
Site address	Grande Route des Mielles/Chemin des Basses Mielles, St Ouen, Jersey
Site Latitude	N 49.19893
Site Longitude	W 02.2237

1.2 Site Description

Operators	JT J
Antenna types	Omni directional (microcell)
Approximate height	3.5m
Site type	Kiosk
Description	The antenna at the La Braye Kiosk is hidden inside the roof-space of the kiosk. It is not visible to the public but its outer protective case can be reached by the public

1.3 Site Photo

Figure 2 – Peak Measurement Location

1.4 Test Location

Figure 3- The probe was positioned inside the kiosk where the strongest signal was 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.

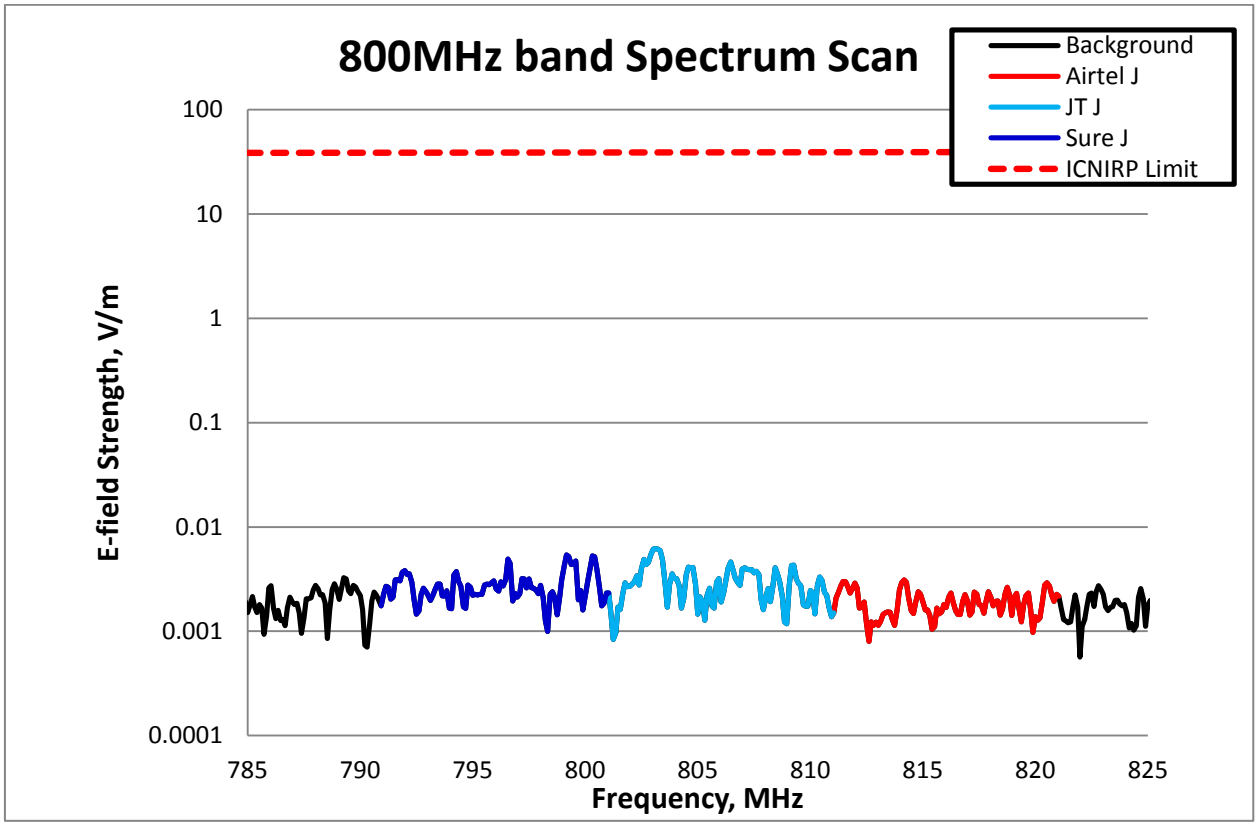

Figure 4 - 800MHz band Spectrum Scan

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 activity was recorded in the 800MHz as no operator appears to transmit in this band at this site.

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
La Braye Kiosk	Airtel J	800	0.003115	12485	1.01326E-07	1/ 9869129
	JT J		0.006213	6260	2.63408E-07	1/ 3796388
	Sure J		0.005384	7223	2.18824E-07	1/ 4569877
				total band EQ	5.83559E-07	1/ 1713624

Table 2– 800MHz band Exposure Quotient at La Braye Kiosk

2.2 900 MHz Band

The graph for the 900 MHz activity is shown below:

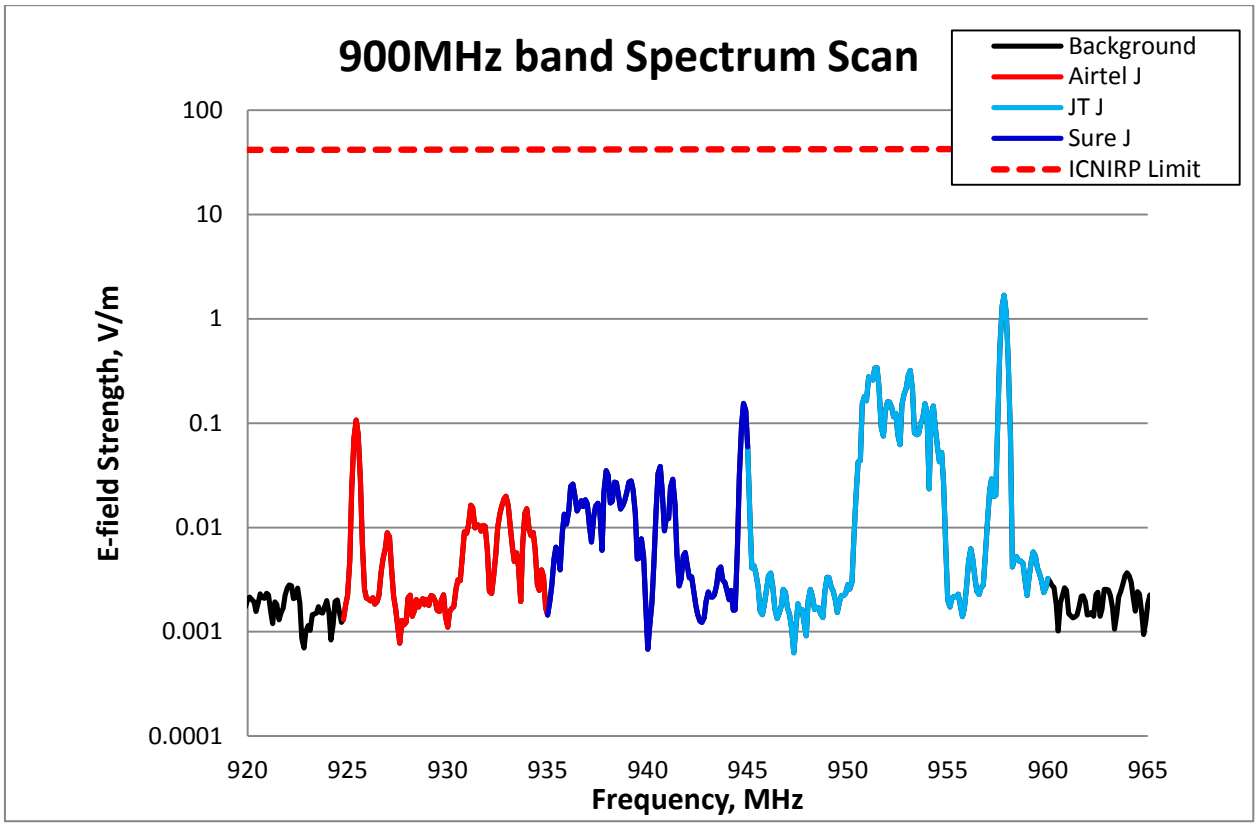

Figure 5 - 900MHz band Spectrum Scan

No field level recorded across the band was higher than 1.688 V/m (JT J), which is 24 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
La Braye Kiosk	Airtel J	900	0.1071	385	7.75212E-06	1/ 128997
	JT J		1.688	24	0.002026801	1/ 493
	Sure J		0.1545	267	2.01074E-05	1/ 49733
				total band EQ	0.00205466	1/ 487

Table 3– 900MHz band Exposure Quotient at La Braye Kiosk

2.3 1800 MHz Band

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

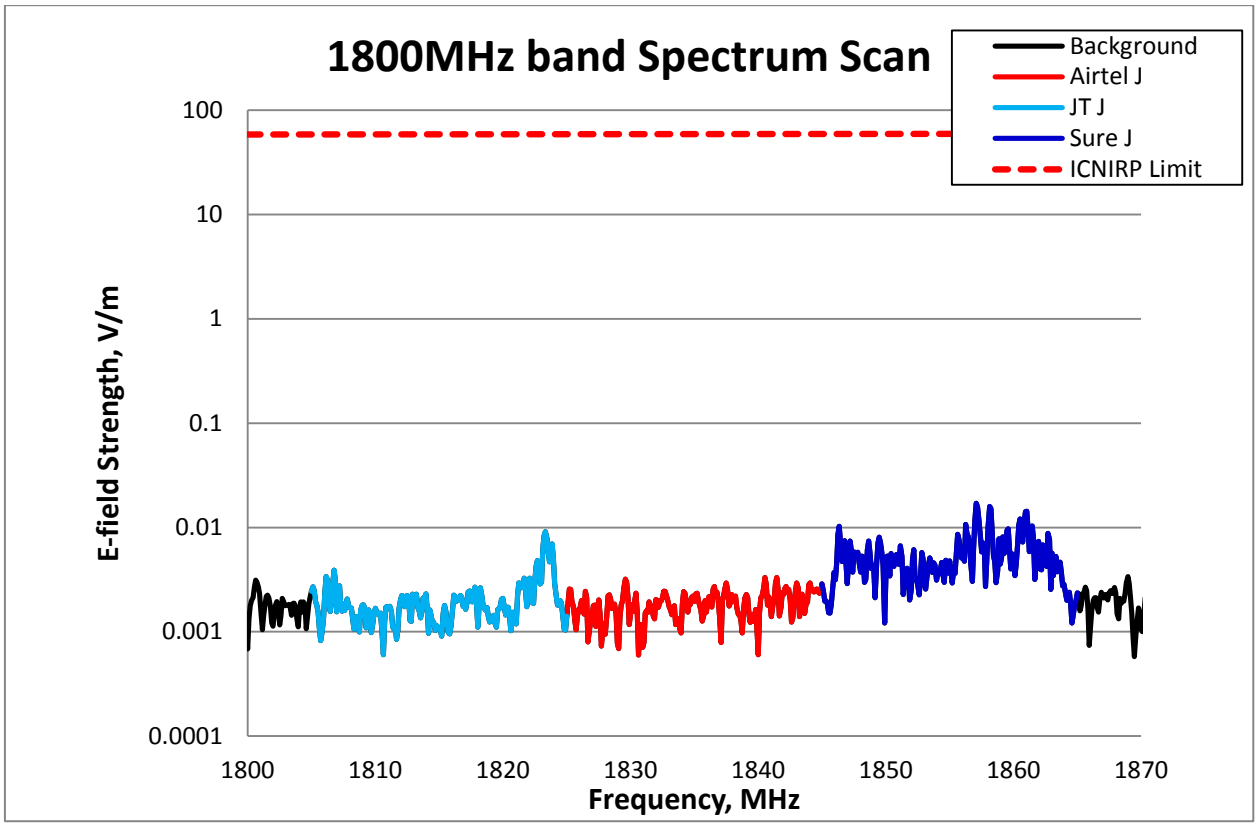

Figure 6 - 1800MHz Spectrum Scan

No field level recorded across the band was higher than 0.01707 V/m (Sure J), which is 3417 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
La Braye Kiosk	Airtel J	1800	0.003317	17587	1.95534E-07	1/ 5114196
	JT J		0.009095	6414	2.98851E-07	1/ 3346145
	Sure J		0.01707	3417	1.93283E-06	1/ 517375
				total band EQ	2.42722E-06	1/ 411994

Table 4 – 1800MHz band Exposure Quotient at La Braye Kiosk

2.4 2100MHz Band

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

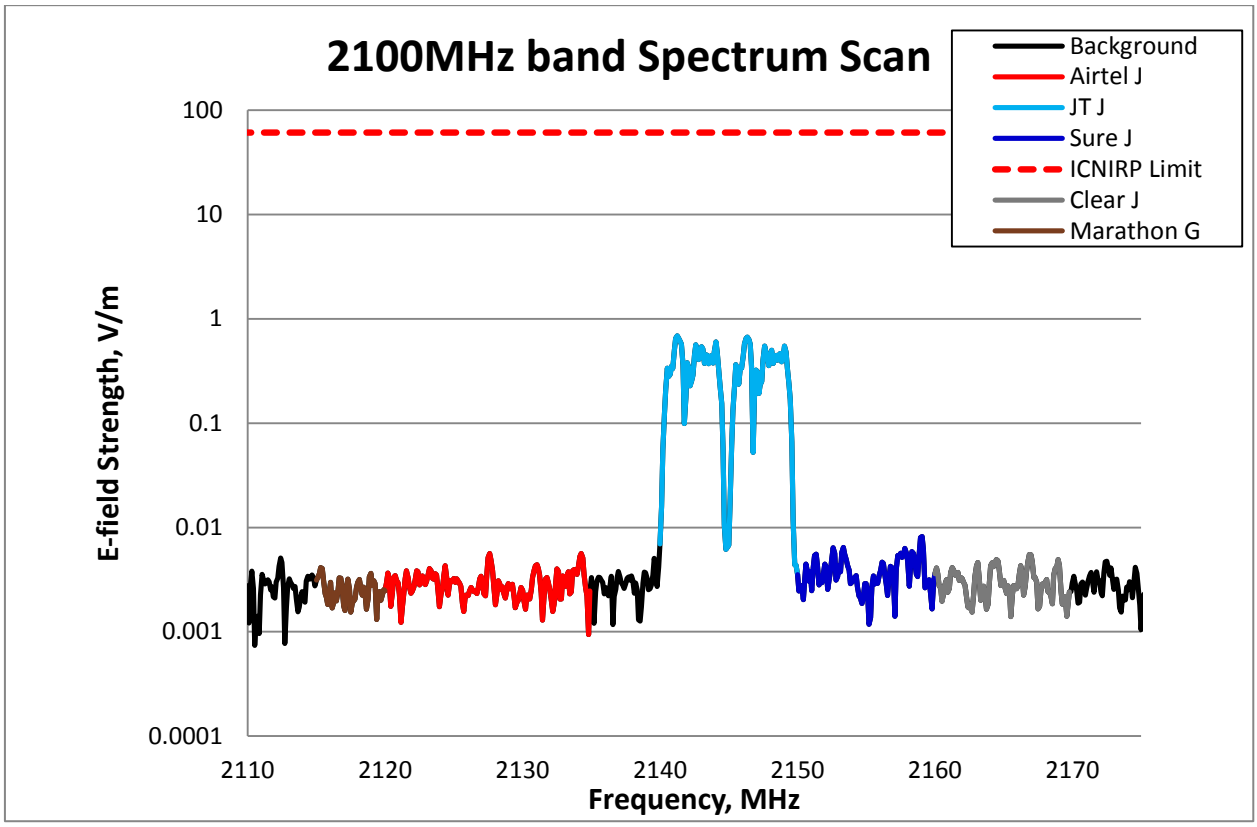

Figure 7 – 2100MHz band Spectrum Scan

No field level recorded across the band was higher than 0.688 V/m (JT J), which is 89 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
La Braye Kiosk	Airtel J	2100	0.005639	10818	3.54791E-07	1/ 2818564
	Clear J		0.005506	11079	2.59702E-07	1/ 3850572
	JT J		0.688	89	0.003804735	1/ 263
	Marathon J		0.004113	14831	9.15222E-08	1/ 10926306
	Sure J		0.00819	7448	4.26929E-07	1/ 2342311
				total band EQ	0.003805868	1/ 263

Table 5 – 2100MHz band Exposure Quotient at La Braye Kiosk

2.5 2600MHz band

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

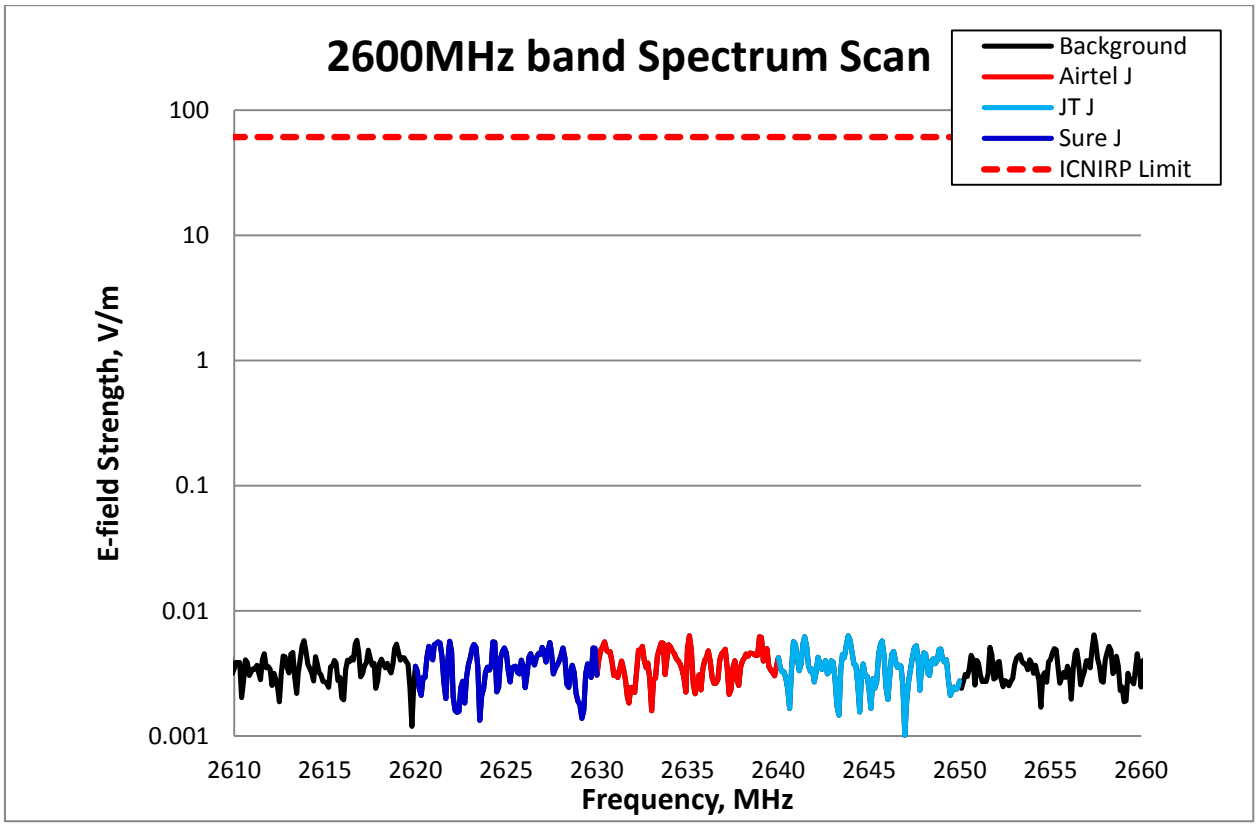

Figure 8 – 2600MHz band Spectrum Scan

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
La Braye Kiosk	Airtel J	2600	0.006345	9614	4.13364E-07	1/ 2419177
	JT J		0.006324	9646	3.70932E-07	1/ 2695909
	Sure J		0.005739	10629	3.78655E-07	1/ 2640929
				total band EQ	1.16295E-06	1/ 859882

Table 6 – 2600MHz band Exposure Quotient at La Braye Kiosk

End