

Cellular Mast Emissions Survey:

La Place Hotel (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 the La Place Hotel site located in Jersey.

La Place Hotel site was used by one 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 Place Hotel	800	0.05151	JT J	755	8.35975E-06	1/ 119621
	900	0.4824	JT J	86	0.000204396	1/ 4892
	1800	0.001275	Airtel J	45754	5.97744E-08	1/ 16729576
	2100	0.001902	Marathon J	32072	1.30393E-07	1/ 7669140
	2600	0.002239	Airtel J	27244	1.17314E-07	1/ 8524115
Total Site EQ					0.000213063	1/ 4693

Table 1 - Cumulative Exposure Quotient

The results show that the cumulative EQ was measured at 1/4693 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

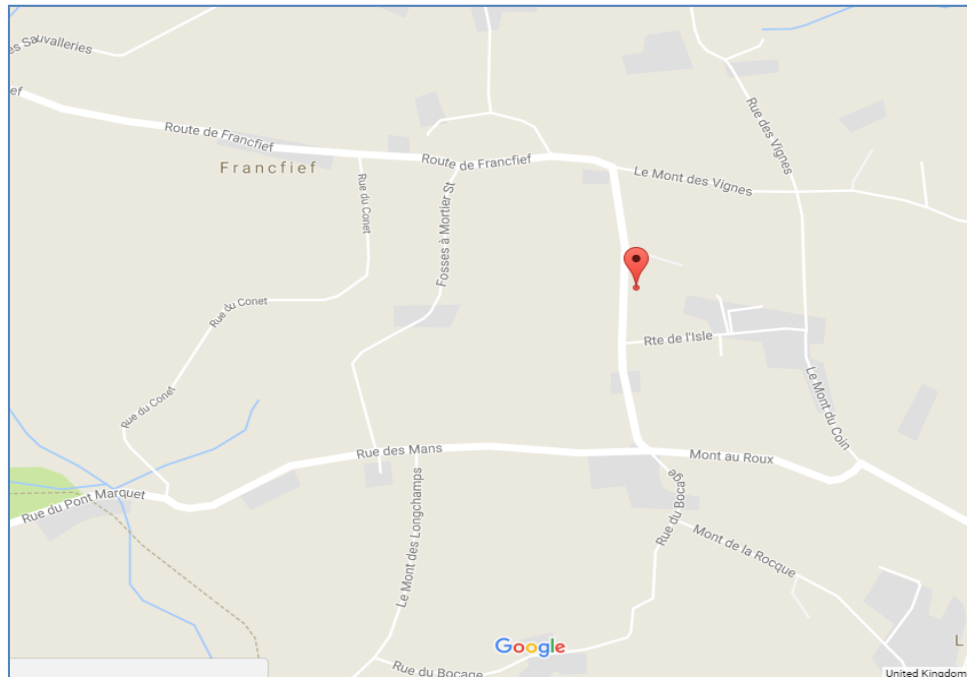


Figure 1 - Map of the Site Area

Site name	La Place Hotel
Site address	La Route Du Coin, Jersey
Site Latitude	49.19684
Site Longitude	-2.17688

1.2 Site Description

Operators	JT J
Antenna types	Omni directional
Approximate height	8m
Site type	Monopole
Description	The Monopole at La Place Hotel is located in the centre of the site car park; access is open to the public.

1.3 Site Photo



Figure 2 – Peak Measurement Location

1.4 Test Location

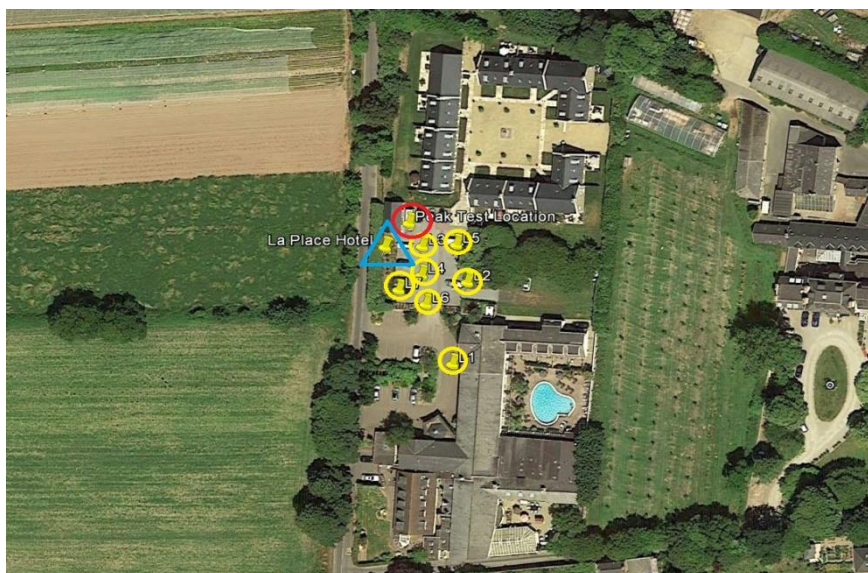


Figure 3- Survey Area with Spot Measurement Markers: The blue triangle is the site location, the yellow circles are intermediate locations measured at during the peak search and the red circle is the spot where the highest spot search reading was obtained and where the detailed survey was carried out

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.

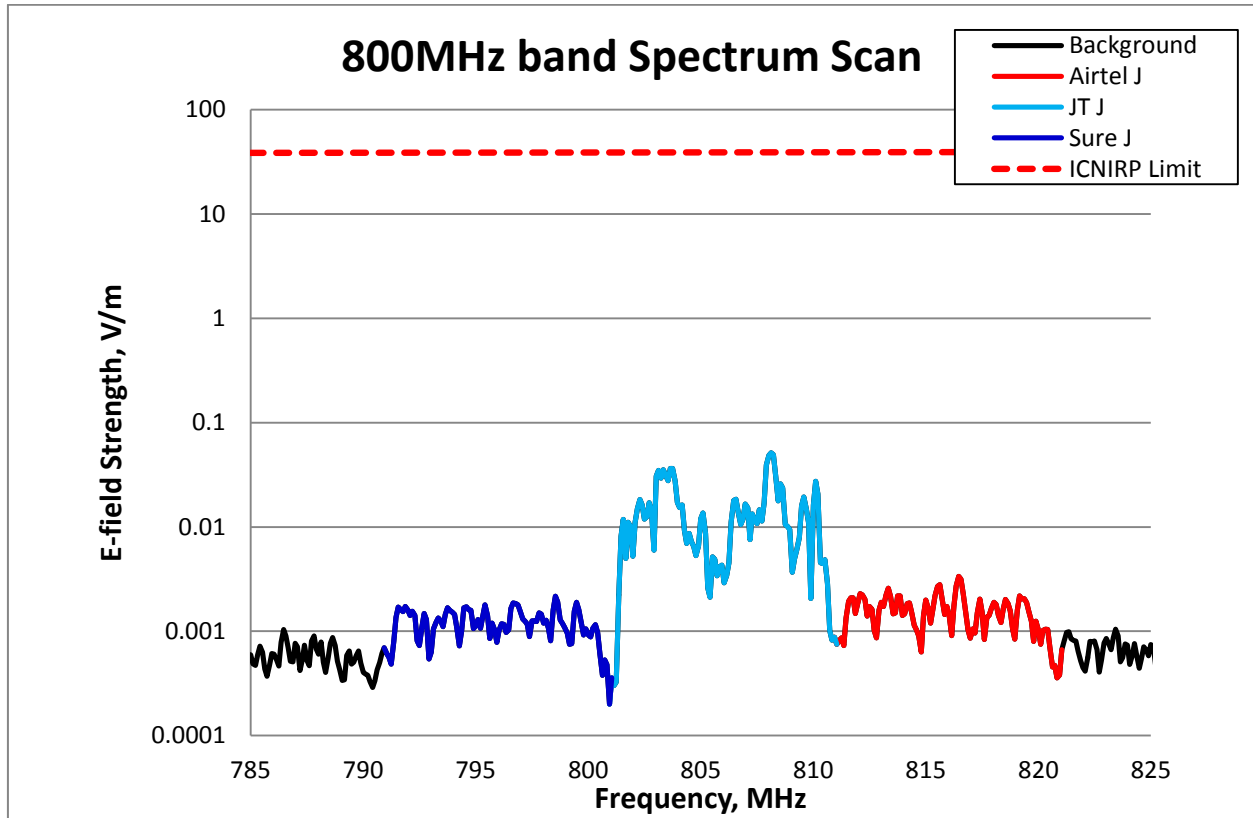


Figure 4 - 800MHz band Spectrum Scan

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 0.05151 V/m (JT J), which is 755 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
La Place Hotel	Airtel J	800	0.003354	11595	7.08393E-08	1/ 14116463
	JT J		0.05151	755	8.24716E-06	1/ 121254
	Sure J		0.002169	17930	4.17487E-08	1/ 23952863
total band EQ					8.35975E-06	1/ 119621

Table 2– 800MHz band Exposure Quotient at La Place Hotel

2.2 900 MHz Band

The graph for the 900 MHz activity is shown below:

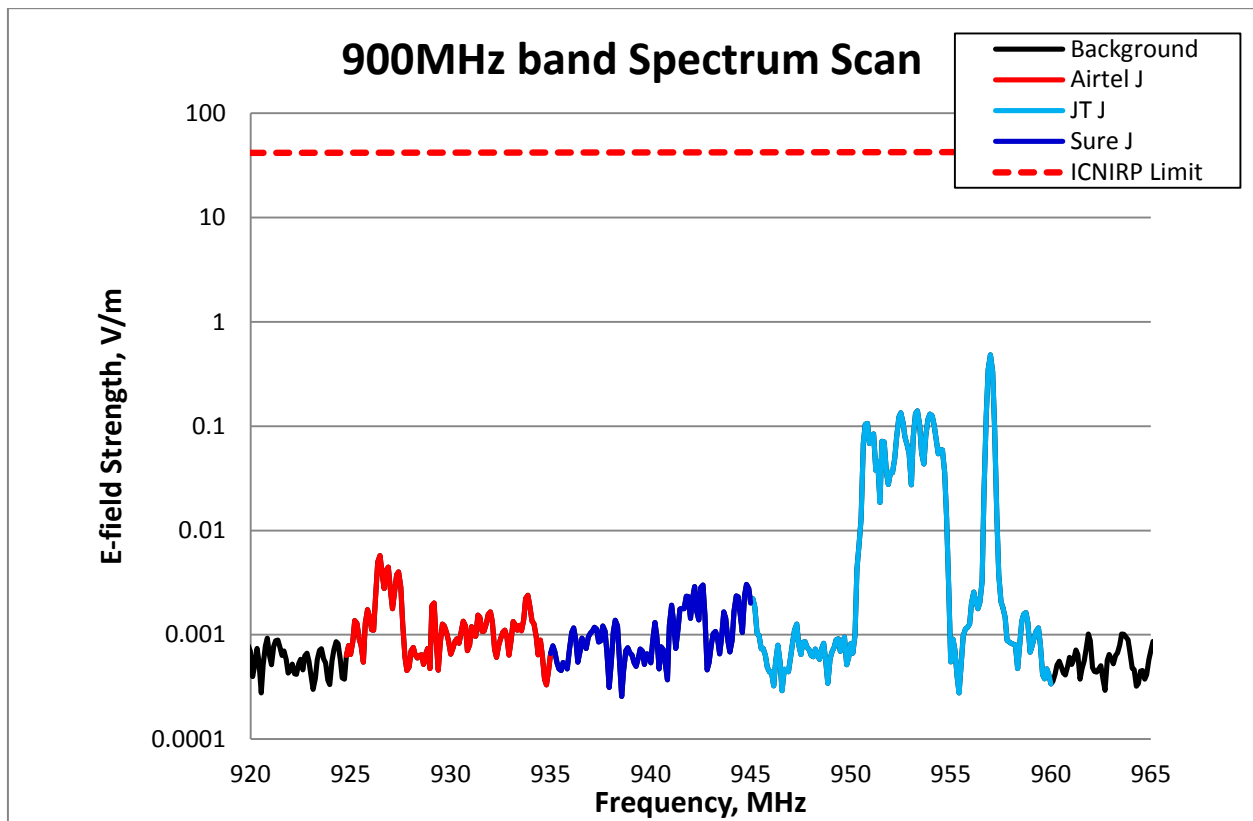


Figure 5 - 900MHz band Spectrum Scan

No field level recorded across the band was higher than 0.4824 V/m (JT J), which is 86 times smaller than the ICNIRP Reference level.

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

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 Place Hotel	Airtel J	900	0.005749	7175	7.58167E-08	1/ 13189707
	JT J		0.4824	86	0.000204277	1/ 4895
	Sure J		0.003048	13533	4.32591E-08	1/ 23116538
total band EQ					0.000204396	1/ 4892

Table 3– 900MHz band Exposure Quotient La Place Hotel

2.3 1800 MHz Band

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

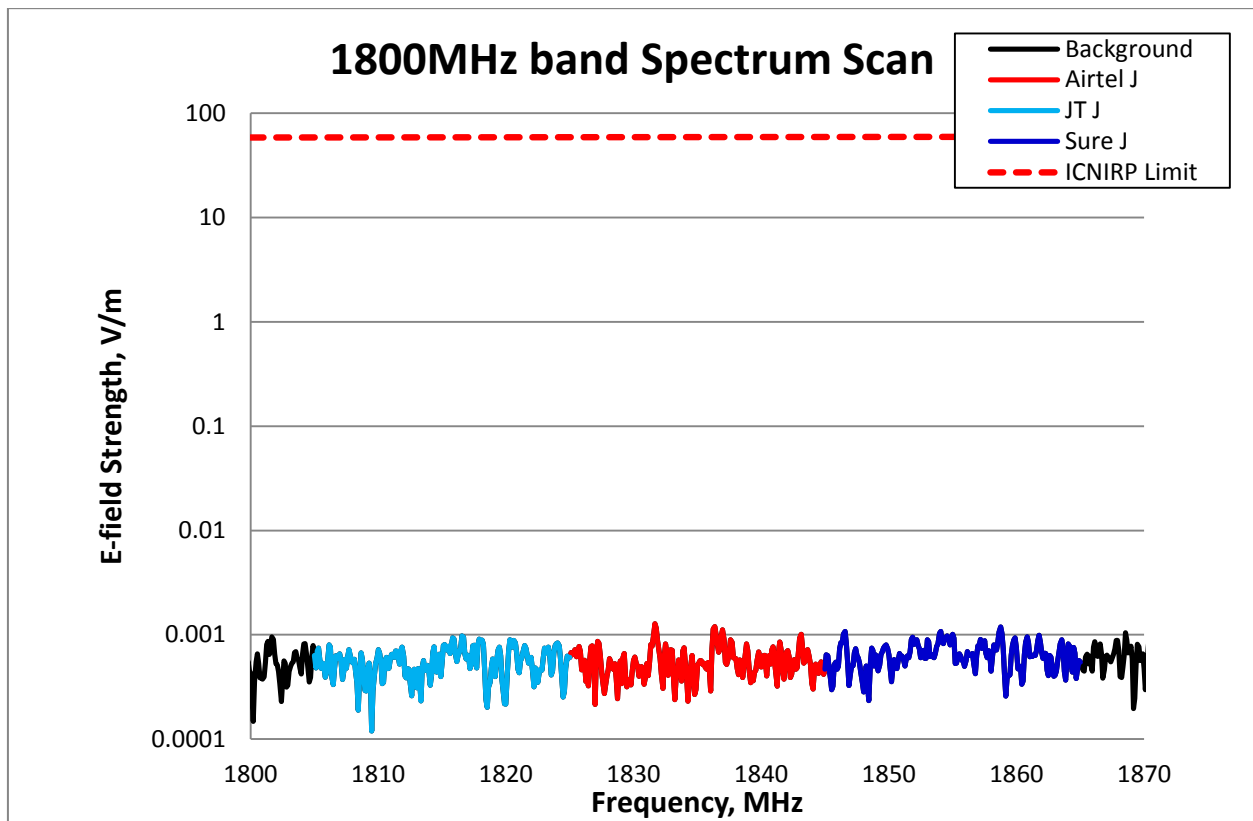


Figure 6 - 1800MHz Spectrum Scan

No activity was recorded in the 1800MHz as no operator appears to transmit in this band at this site.

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

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 Place Hotel	Airtel J	1800	0.001275	45754	1.83853E-08	1/ 54391236
	JT J		0.0009747	59851	1.78341E-08	1/ 56072380
	Sure J		0.001187	49146	2.3555E-08	1/ 42453883
total band EQ					5.97744E-08	1/ 16729576

Table 4 – 1800MHz band Exposure Quotient at La Place Hotel

2.4 2100MHz Band

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

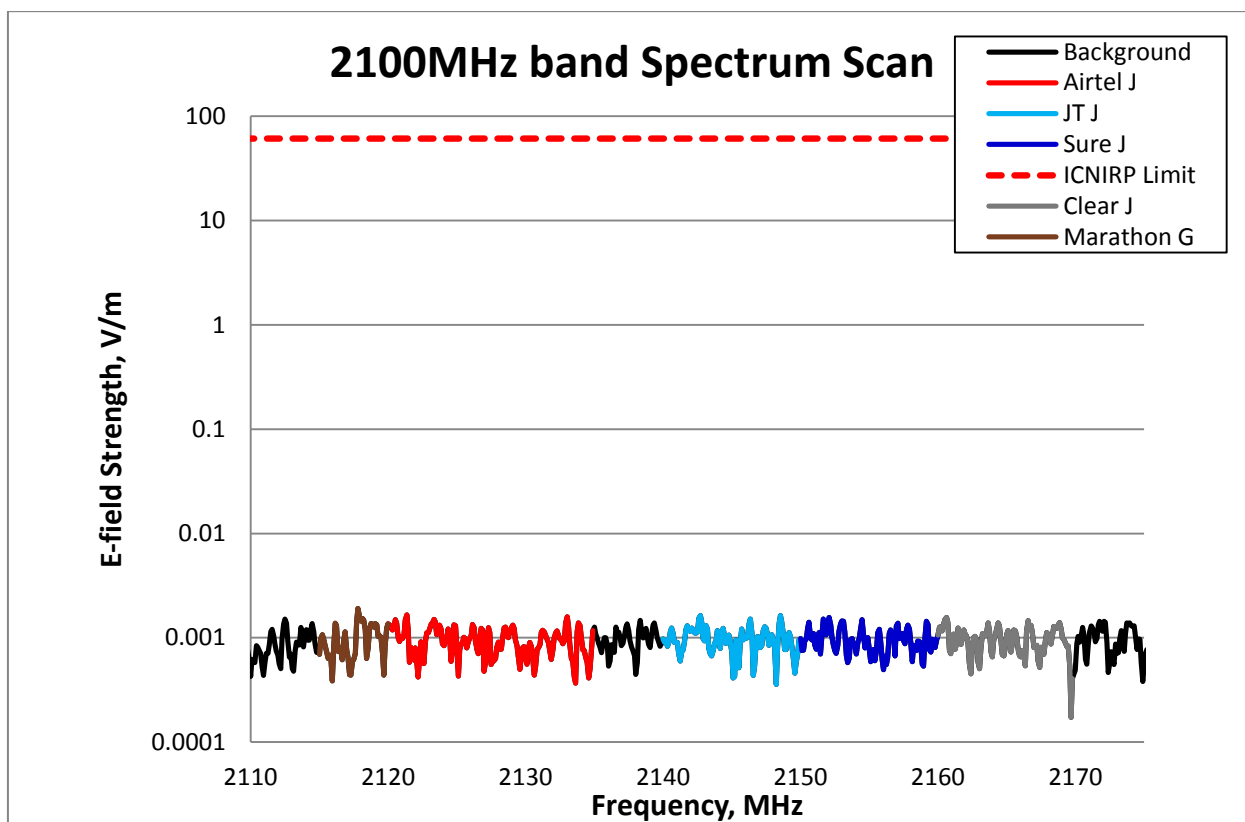


Figure 7 – 2100MHz band Spectrum Scan

No activity was recorded in the 2100MHz as no operator appears to transmit in this band at this site.

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

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 Place Hotel	Airtel J	2100	0.001656	36836	3.76754E-08	1/ 26542530
	Clear J		0.001564	39003	2.59057E-08	1/ 38601562
	JT J		0.001639	37218	2.65313E-08	1/ 37691358
	Marathon J		0.001902	32072	1.42555E-08	1/ 70148241
	Sure J		0.001565	38978	2.60248E-08	1/ 38424831
total band EQ					1.30393E-07	1/ 7669140

Table 5 – 2100MHz band Exposure Quotient at La Place Hotel

2.5 2600MHz band

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

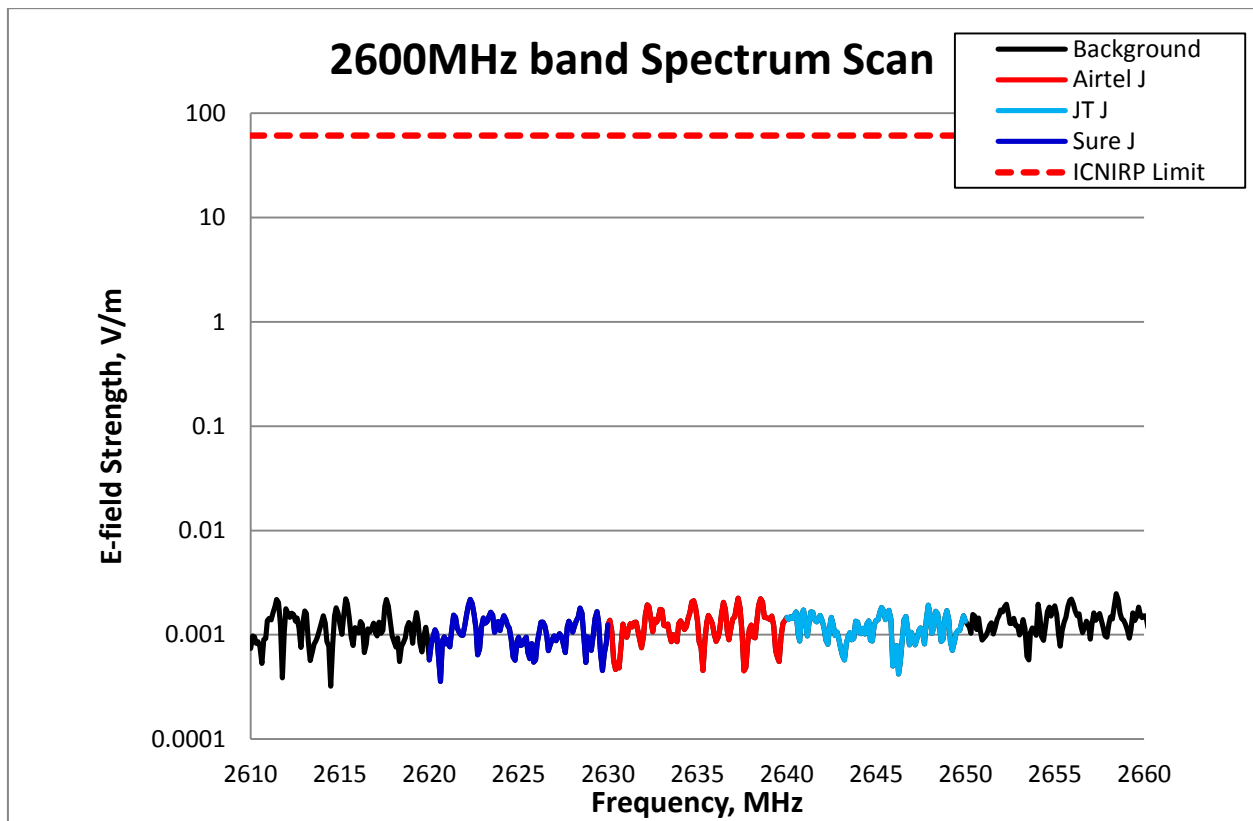


Figure 8 – 2600MHz band Spectrum Scan

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 2600MHz band are shown below:

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 Place Hotel	Airtel J	2600	0.002239	27244	4.45397E-08	1/ 22451905
	JT J		0.001915	31854	3.95276E-08	1/ 25298752
	Sure J		0.002187	27892	3.32469E-08	1/ 30077959
	total band EQ				1.17314E-07	1/ 8524115

Table 6 – 2600MHz band Exposure Quotient at La Place Hotel

End