

Cellular Mast Emissions Survey: Havre Des Pas Kiosk (Jersey)



DOCUMENT DETAILS

Document Name:	Cellular Mast Emissions Survey: Havre Des Pas Kiosk (Jersey)
Survey Date:	06/06/2017 at 15:37
Report issue Date	14/07/2017
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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 Havre Des Pas Kiosk site located in Jersey.

The Havre Des Pas 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
Havre Des Pas Kiosk	800	0.01022	Sure J	3805	1.59418E-06	1/ 627282
	900	3.238	JT J	13	0.011257992	1/ 89
	1800	0.7319	JT J	80	0.001269146	1/ 788
	2100	0.007408	JT J	8234	1.44073E-06	1/ 694093
	2600	0.009359	Airtel J	6518	1.56259E-06	1/ 639962
Total Site EQ					0.012531735	1/ 80

Table 1 - Cumulative Exposure Quotient

The results show that the cumulative EQ was measured at 1/80 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

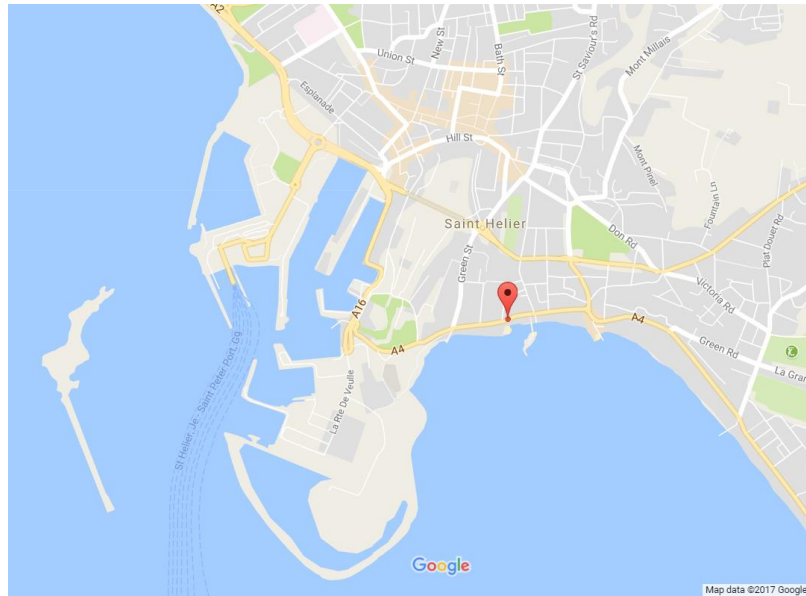


Figure 1 - Map of the Site Area

Site name	Havre Des Pas Kiosk
Site address	Kiosk near Bathing Pool, St Helier, Jersey
Site Latitude	N 49.17709
Site Longitude	W 02.10201

1.2 Site Description

Operators	JT J
Antenna types	Omni directional
Approximate height	2m
Site type	Kiosk
Description	The antenna at the Havre Des Pas 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.

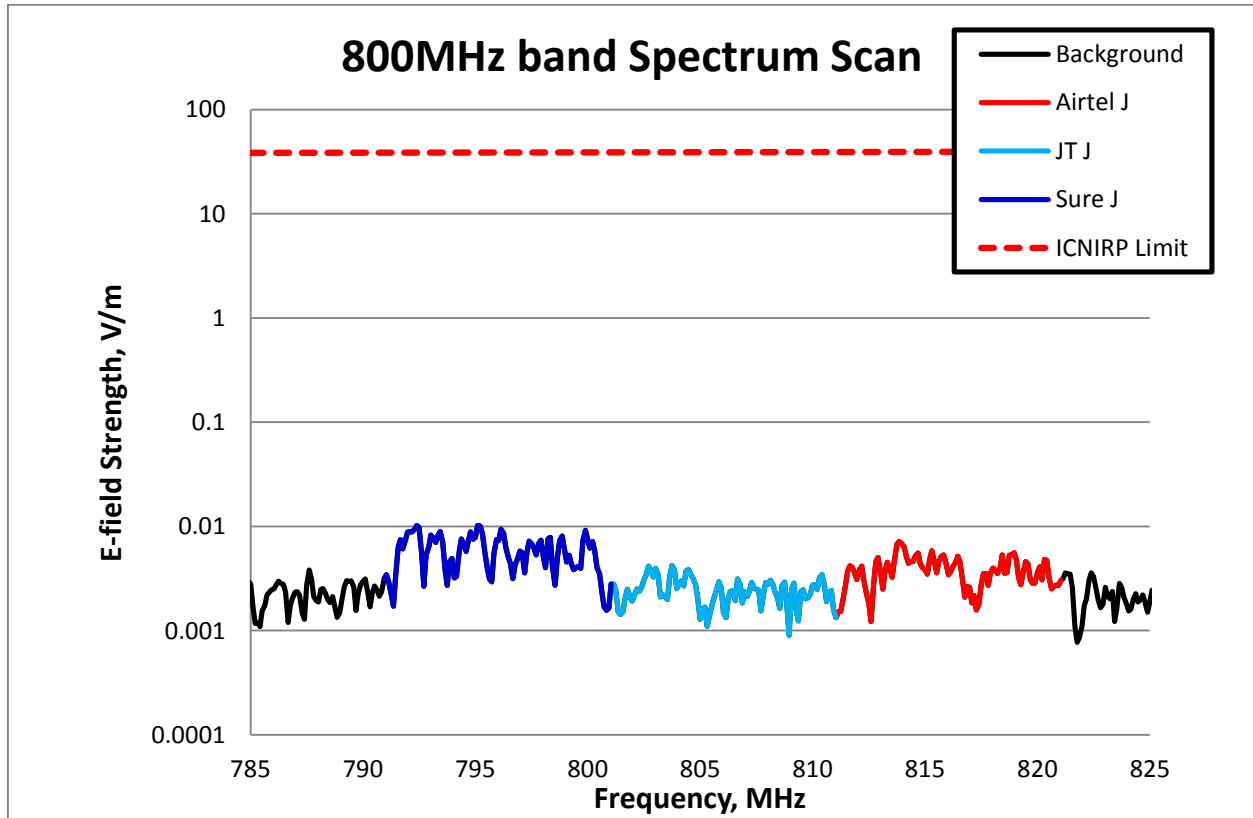


Figure 4 - 800MHz band Spectrum Scan

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.

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
Havre Des Pas Kiosk	Airtel J	800	0.007183	5414	4.12291E-07	1/ 2425473
	JT J		0.00423	9194	1.69229E-07	1/ 5909161
	Sure J		0.01022	3805	1.01266E-06	1/ 987497
total band EQ					1.59418E-06	1/ 627282

Table 2– 800MHz band Exposure Quotient at Havre Des Pas Kiosk

2.2 900 MHz Band

The graph for the 900 MHz activity is shown below:

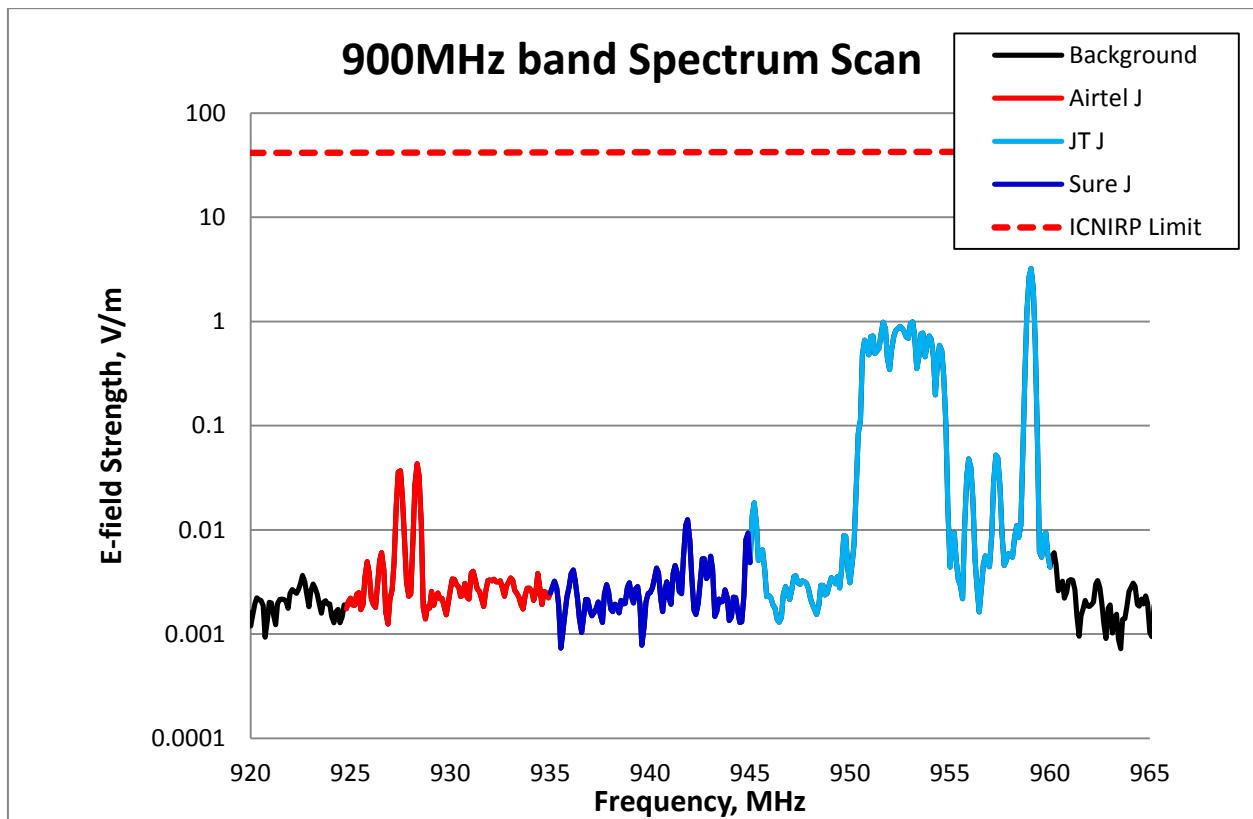


Figure 5 - 900MHz band Spectrum Scan

No field level recorded across the band was higher than 3.238 V/m (JT J), which is 13 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
Havre Des Pas Kiosk	Airtel J	900	0.04308	958	2.1542E-06	1/ 464210
	JT J		3.238	13	0.011255526	1/ 89
	Sure J		0.01255	3287	3.11494E-07	1/ 3210335
total band EQ					0.011257992	1/ 89

Table 3– 900MHz band Exposure Quotient at Havre Des Pas Kiosk

2.3 1800 MHz Band

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

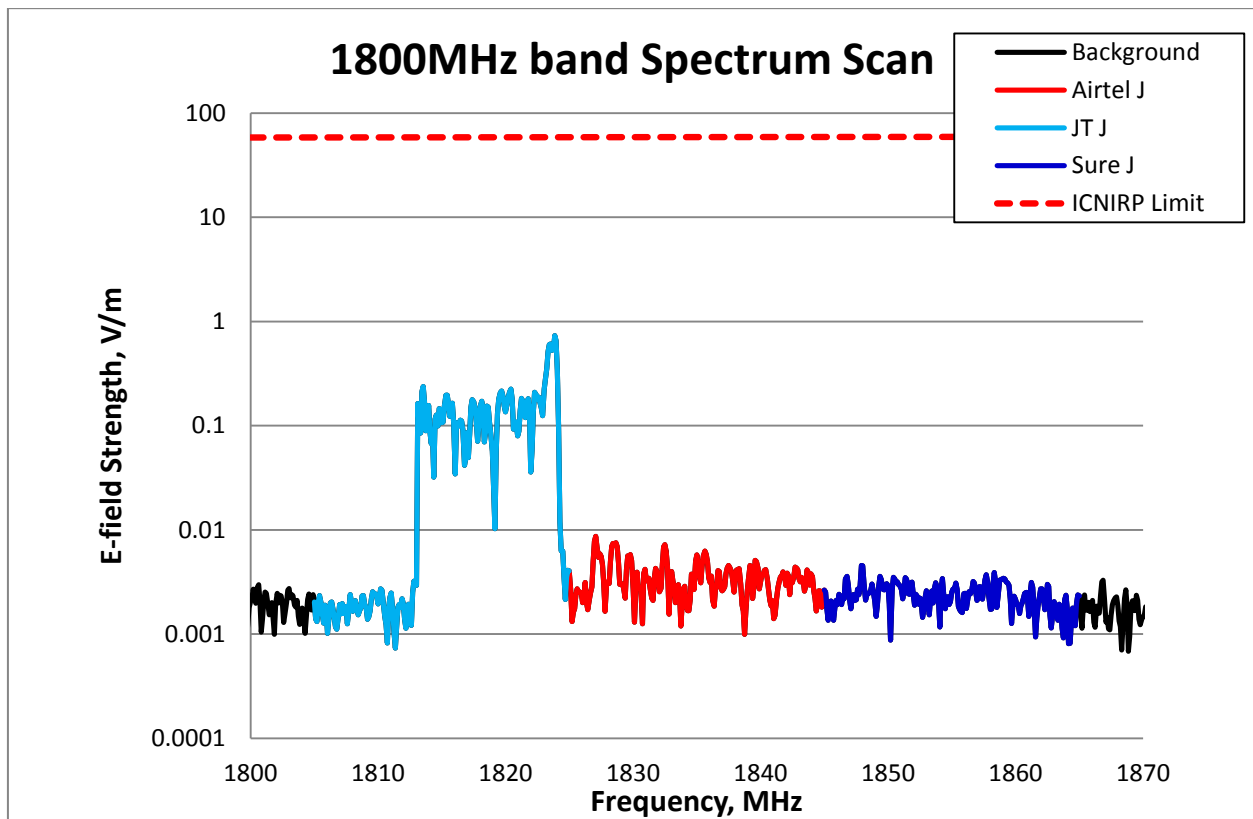


Figure 6 - 1800MHz Spectrum Scan

No field level recorded across the band was higher than 0.7319 V/m (JT J), which is 80 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
Havre Des Pas Kiosk	Airtel J	1800	0.008686	6716	7.2207E-07	1/ 1384907
	JT J		0.7319	80	0.001268113	1/ 789
	Sure J		0.004561	12790	3.10874E-07	1/ 3216742
	total band EQ				0.001269146	1/ 788

Table 4 – 1800MHz band Exposure Quotient at Havre Des Pas Kiosk

2.4 2100MHz Band

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

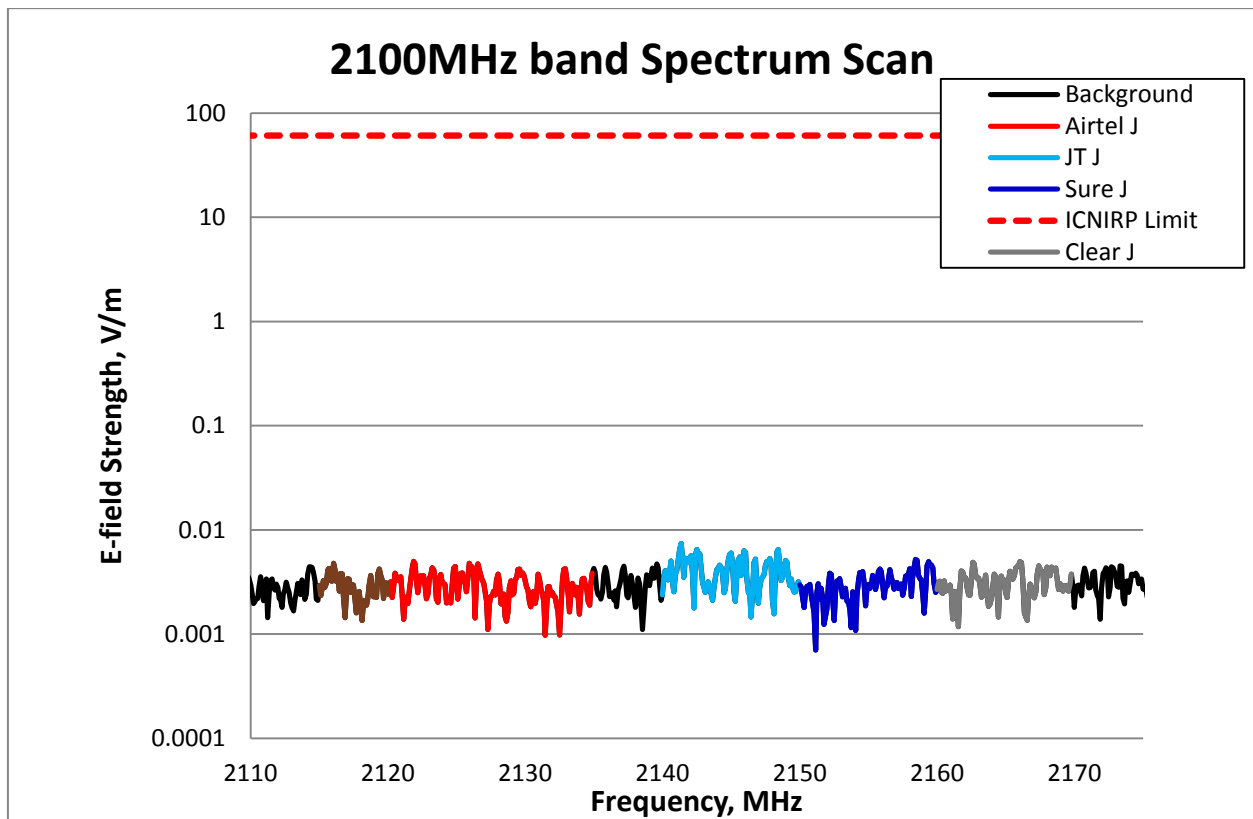


Figure 7 - 2100MHz Spectrum Scan

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	Operator	Band [MHz]	Max E-field Strength [V/m]	ICNIRP Limit Relative to Max E-field	Band Exposure Quotient	Band EQ Relative to ICNIRP
Havre Des Pas Kiosk	Airtel J	2100	0.004999	12202	3.52701E-07	1/ 2835263
	Clear J		0.00495	12323	2.66193E-07	1/ 3756673
	JT J		0.007408	8234	4.57047E-07	1/ 2187958
	Marathon J		0.004777	12770	1.17871E-07	1/ 8483883
	Sure J		0.00523	11663	2.46917E-07	1/ 4049942
total band EQ					1.44073E-06	1/ 694093

Table 5 – 2100MHz band Exposure Quotient at Havre Des Pas Kiosk

2.5 2600MHz band

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

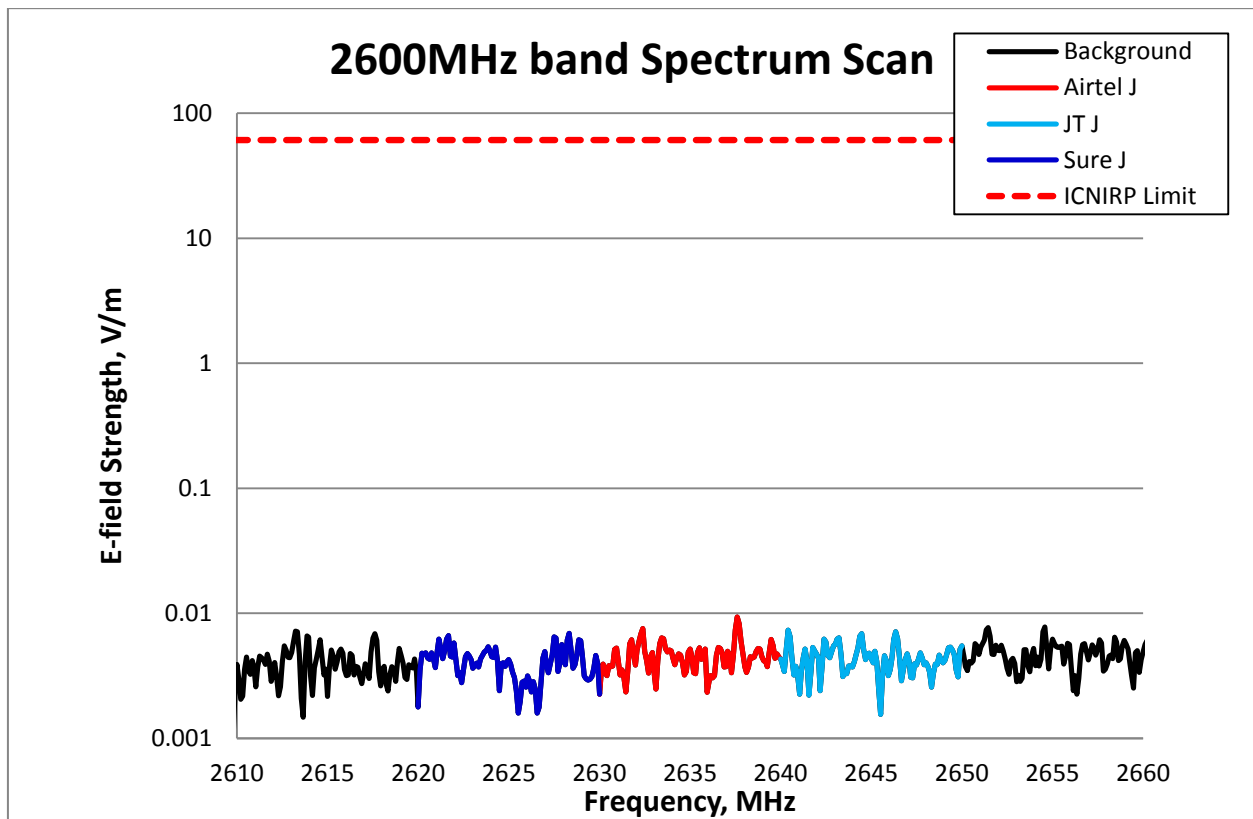


Figure 7 – 2600MHz band Spectrum Scan

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	Operator	Band [MHz]	Max E-field Strength [V/m]	ICNIRP Limit Relative to Max E-field	Band Exposure Quotient	Band EQ Relative to ICNIRP
Havre Des Pas Kiosk	Airtel J	2600	0.009359	6518	5.69776E-07	1/ 1755075
	JT J		0.007316	8338	5.23744E-07	1/ 1909330
	Sure J		0.006891	8852	4.69073E-07	1/ 2131864
total band EQ					1.56259E-06	1/ 639962

Table 6 – 2600MHz band Exposure Quotient at Havre Des Pas Kiosk

End