

Cellular Mast Emissions Survey: Les Mielles Golf Club (Jersey)



DOCUMENT DETAILS

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	(Jersey)	
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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 Mielles Golf Club site located in Jersey.

Les Mielles 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
Les Mielles	800	0.02795	JT J	1391	7.02075E-06	1/ 142435
	900	0.3246	JT J	127	8.55892E-05	1/ 11684
	1800	0.002661	Sure J	21923	1.46772E-07	1/ 6813293
	2100	0.05497	Sure J	1110	1.15896E-05	1/ 86284
	2600	0.00257	Sure J	23735	1.15153E-07	1/ 8684130
Total Site EQ					0.000104461	1/ 9573

Table 1 - Cumulative Exposure Quotient

The results show that the cumulative EQ was measured at 1/9573 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 Mielles
Site address	Les Mielles Golf Club, Route de la Marette, St Peter, Jersey
Site Latitude	N 49.20989
Site Longitude	W 02.21907

1.2 Site Description

Operators	JT J
Antenna types	Omni directional
Approximate height	12m
Site type	Rooftop Install
Description	The antennas at Les Mielles are located on the building rooftop, out of reach of 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.

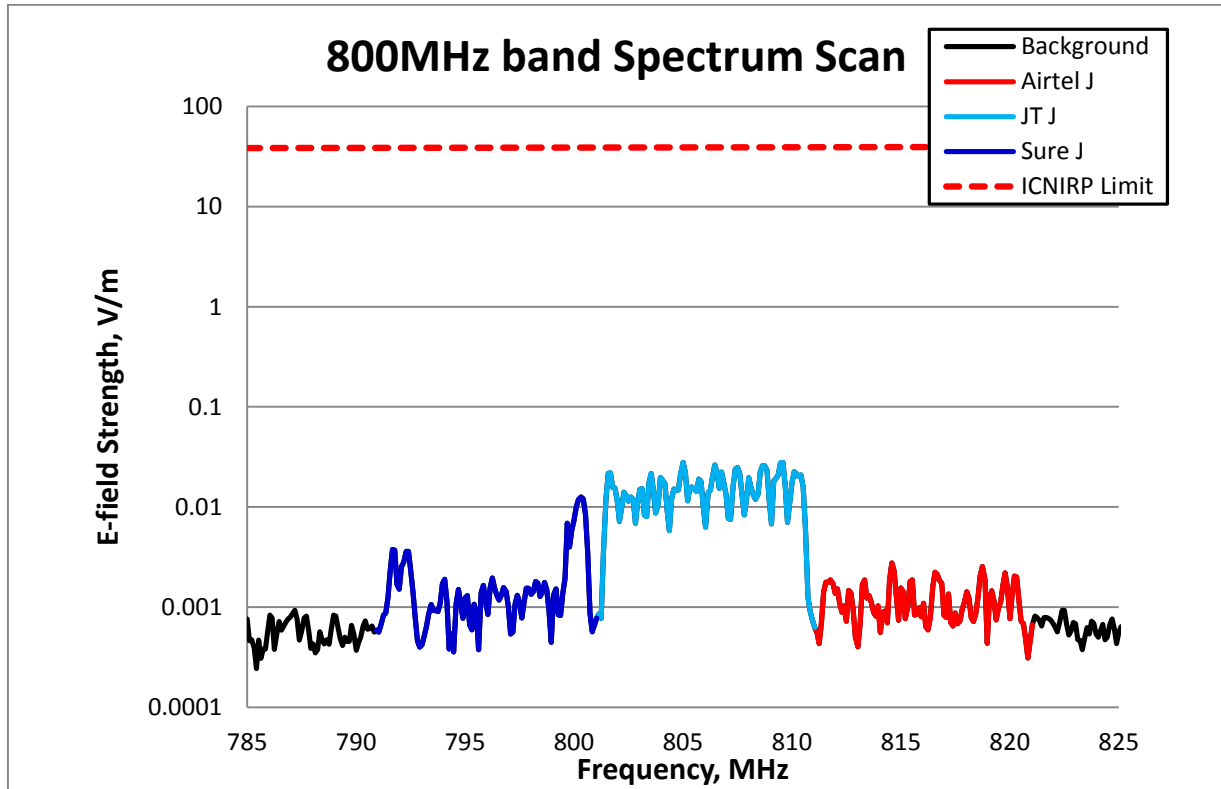


Figure 4 - 800MHz band Spectrum Scan

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 0.02795 V/m (JT J), which is 1391 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 Mielles	Airtel J	800	0.00276	14091	4.3731E-08	1/ 22867058
	JT J		0.02795	1391	6.71783E-06	1/ 148858
	Sure J		0.01259	3089	2.5919E-07	1/ 3858177
total band EQ					7.02075E-06	1/ 142435

Table 2– 800MHz band Exposure Quotient at Les Mielles

2.2 900 MHz Band

The graph for the 900 MHz activity is shown below:

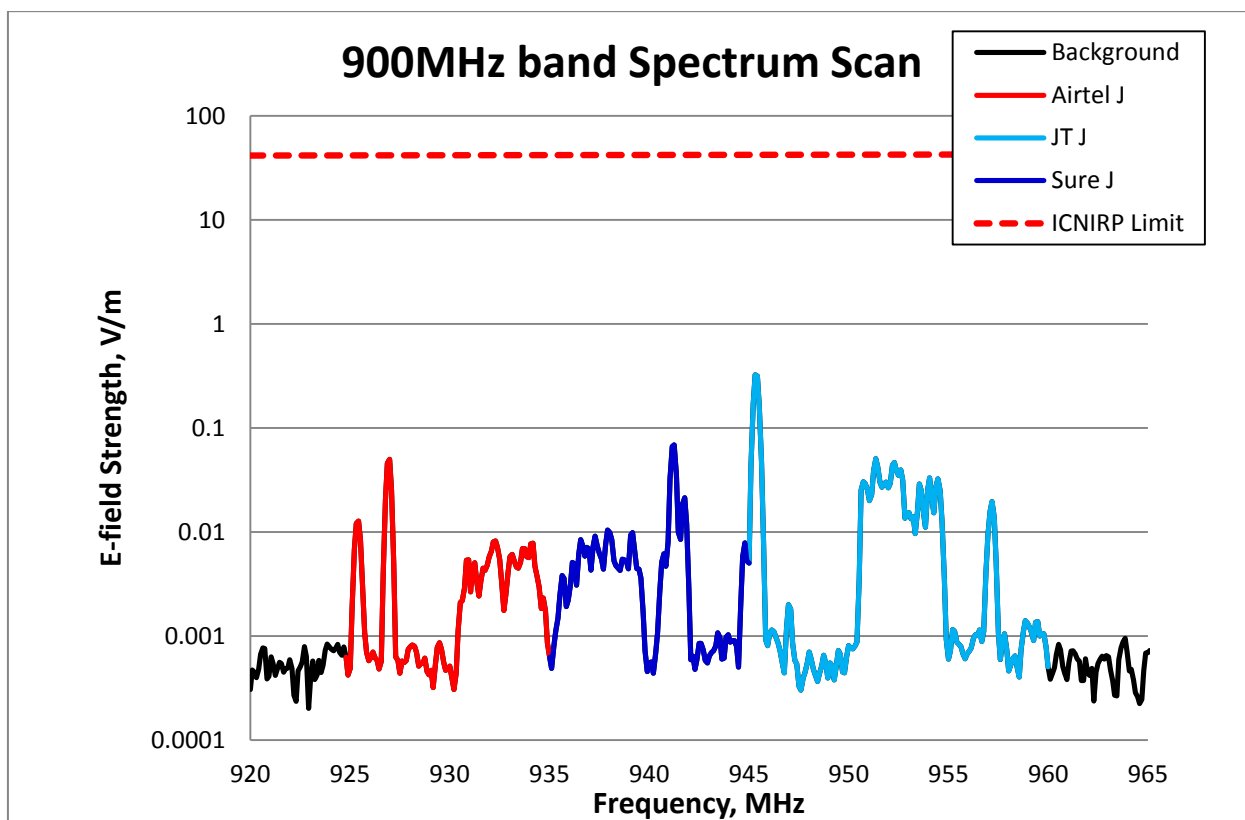


Figure 5 - 900MHz band Spectrum Scan

No field level recorded across the band was higher than 0.3246 V/m (JT J), which is 127 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 Mielles	Airtel J	900	0.04993	826	1.93828E-06	1/ 515923
	JT J		0.3246	127	7.97732E-05	1/ 12536
	Sure J		0.06855	602	3.87771E-06	1/ 257884
total band EQ					8.55892E-05	1/ 11684

Table 3– 900MHz band Exposure Quotient at Les Mielles

2.3 1800 MHz Band

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

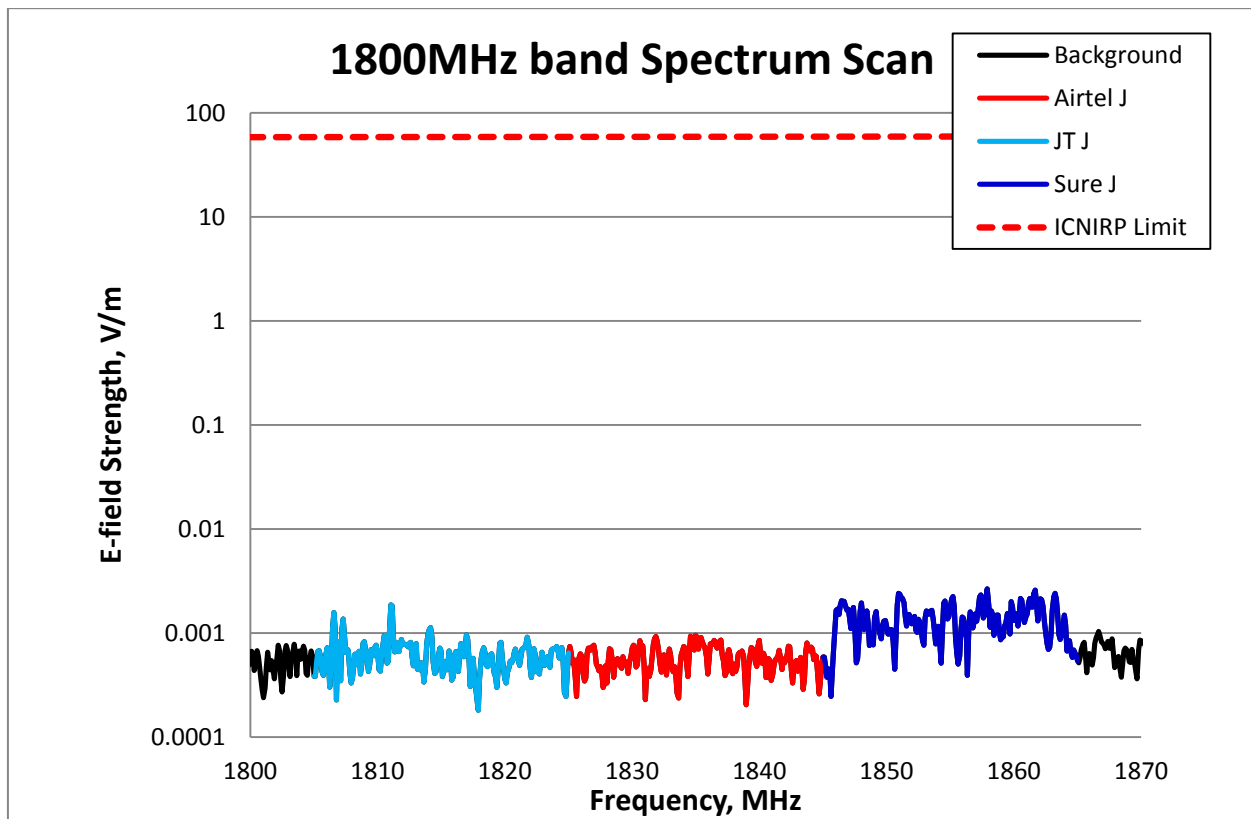


Figure 6 - 1800MHz Spectrum Scan

No field level recorded across the band was higher than 0.002661 V/m (Sure J), which is 21923 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 Mielles	Airtel J	1800	0.0009546	61111	1.83277E-08	1/ 54562334
	JT J		0.001865	31280	2.30082E-08	1/ 43462818
	Sure J		0.002661	21923	1.05436E-07	1/ 9484421
total band EQ					1.46772E-07	1/ 6813293

Table 4 – 1800MHz band Exposure Quotient at Les Mielles

2.4 2100MHz Band

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

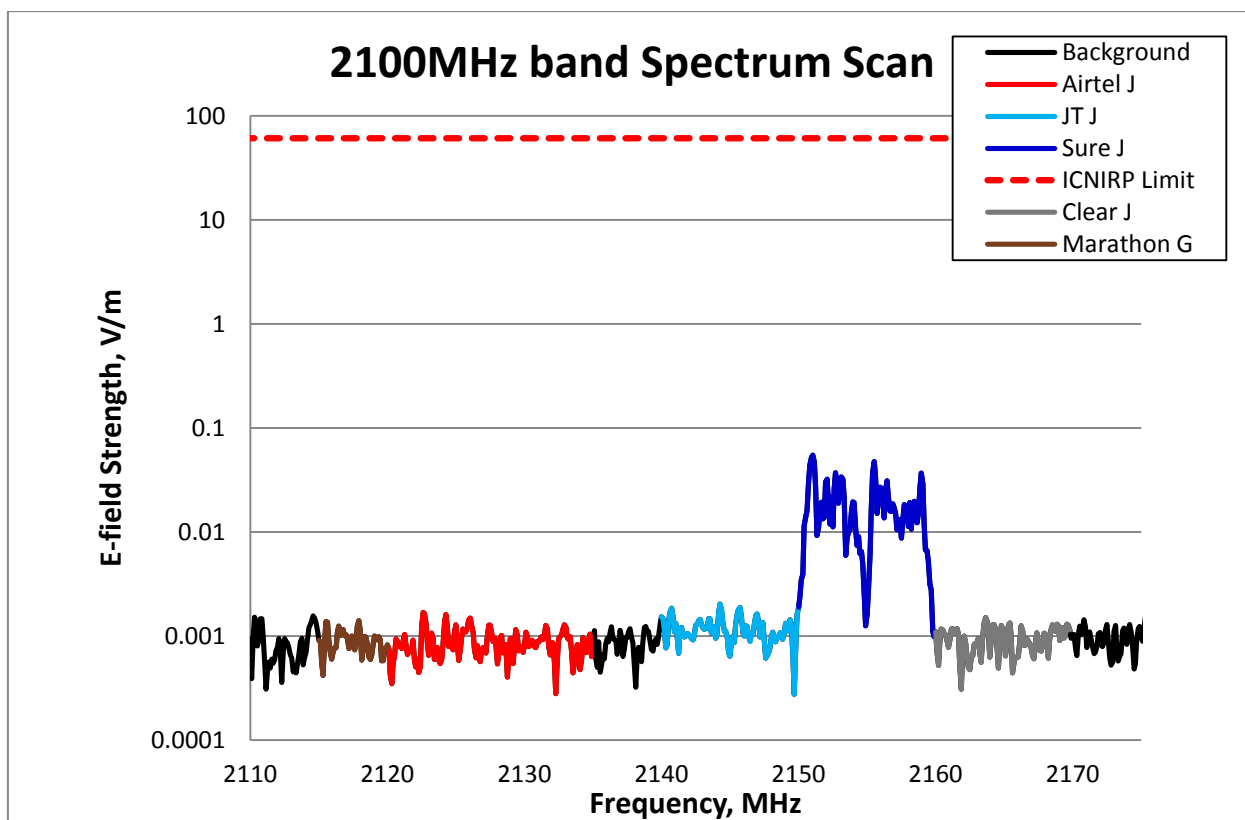


Figure 7 – 2100MHz band Spectrum Scan

No field level recorded across the band was higher than 0.05497 V/m (Sure J), which is 1110 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 Mielles	Airtel J	2100	0.001687	36159	3.12918E-08	1/ 31957267
	Clear J		0.001504	40559	2.37494E-08	1/ 42106328
	JT J		0.002028	30079	3.7937E-08	1/ 26359507
	Marathon J		0.001404	43447	1.09848E-08	1/ 91034523
	Sure J		0.05497	1110	1.14856E-05	1/ 87065
total band EQ					1.15896E-05	1/ 86284

Table 5 – 2100MHz band Exposure Quotient at Les Mielles

2.5 2600MHz band

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

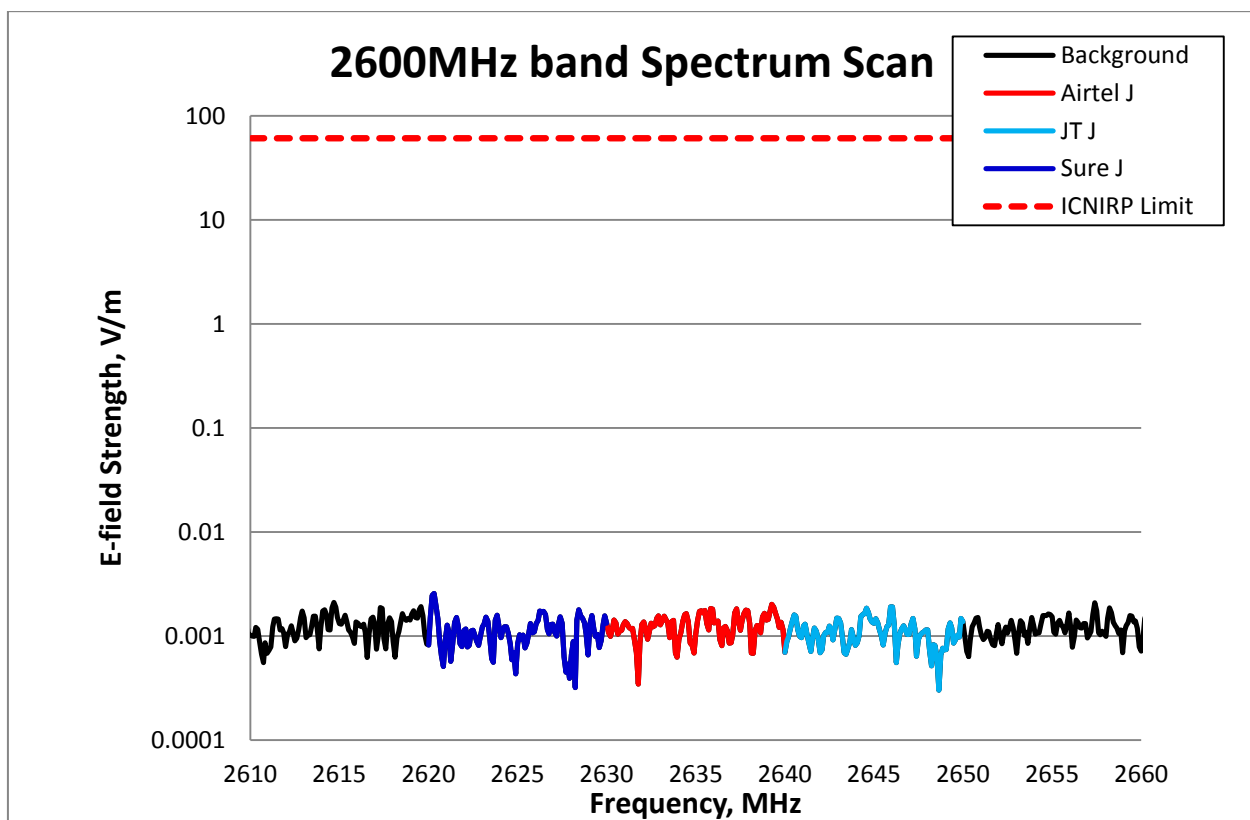


Figure 8 – 2600MHz band Spectrum Scan

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 Mielles	Airtel J	2600	0.00202	30198	4.4633E-08	1/ 22404961
	JT J		0.001902	32072	3.36044E-08	1/ 29758047
	Sure J		0.00257	23735	3.69153E-08	1/ 27089074
total band EQ					1.15153E-07	1/ 8684130

Table 6 – 2600MHz band Exposure Quotient at Les Mielles

End