



Fergus's Case Study Ireland

Author: Poynting Europe GmbH.

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Reference: Fergus, Ireland

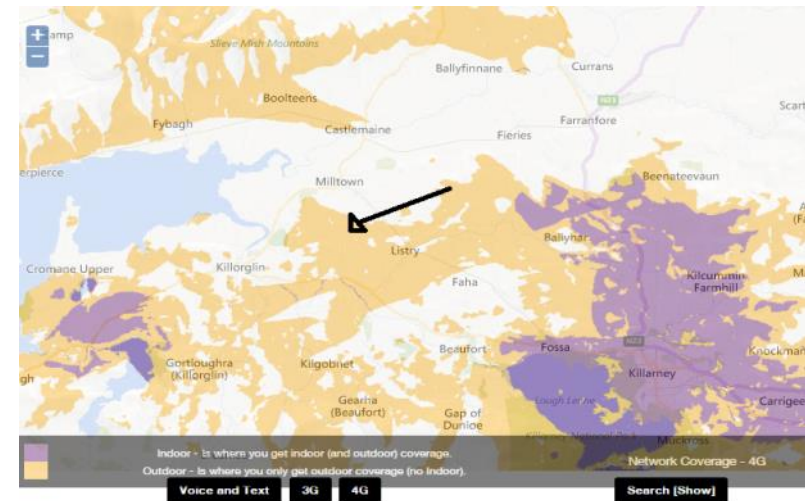
The Problem

Fergus currently owns a Poynting XPOL-2 antenna and hopes to further improve the signal and get a faster data rate.

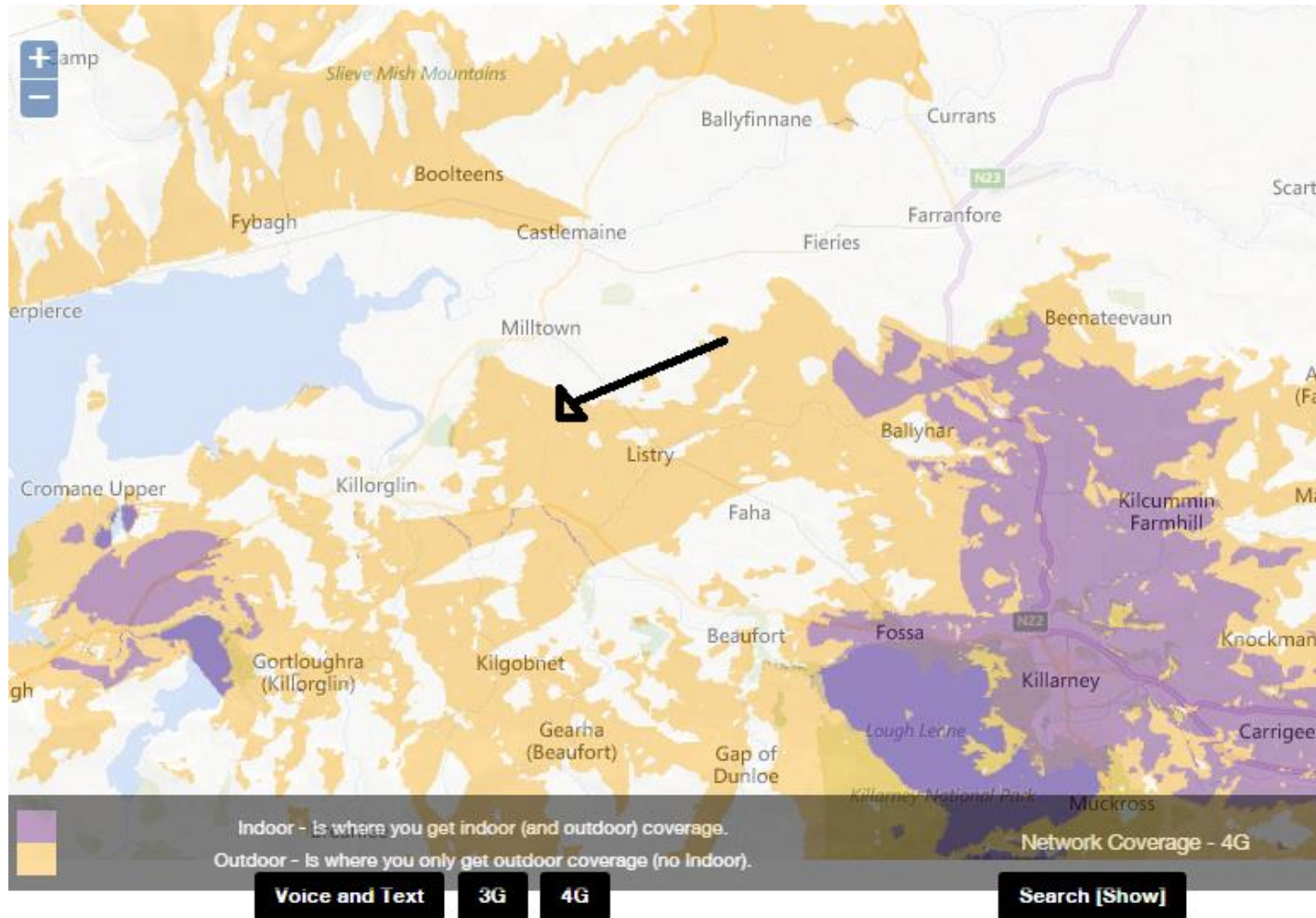
- Living high up in a rural area
 - good clear view around the house with not too many trees or other buildings in the way.
- Modem is a Huawei B593 (July 2016)
 - recently upgraded to: Huawei E5186s-22a modem (CAT 6 / LTE Advanced (Oct. 2016))
- The Poynting XPOL2 is mounted up high on the wall at the back of the house (180 degree to alignment option)
- 3G signal levels without external antenna
- With the signal level (RSSI) of -71 dB a 35 – 40 Mb download and 18 Mb upload
 - In a nearby town 70 Mb download was achieved over mobile phone.
- Frequency used is the 800 MHz, mainly.
 - The carrier also owns 900 MHz and 1800 MHz bands

Results

Wireless Status		
1	PLMN:	27205
2	Service status:	Valid service
3	RSSI (dBm):	-75
4	RSRP (dBm):	-100
5	RSRQ (dB):	-8
6	Roaming:	No



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➤ Arrow indicates the installed antenna direction and the location, on the verge of “outdoor” coverage of the provider

➤ Fergus is considering:

“I am trying to decide between purchasing 2 Yagi antennas with a higher gain or 2 Omni directional antennas to be mounted on the roof.




Based on the information I have provided what do you think would be the best setup for me?”

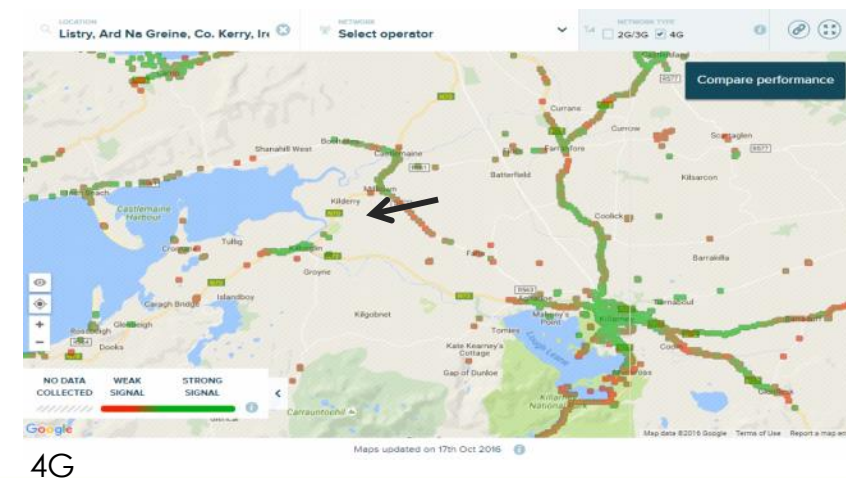
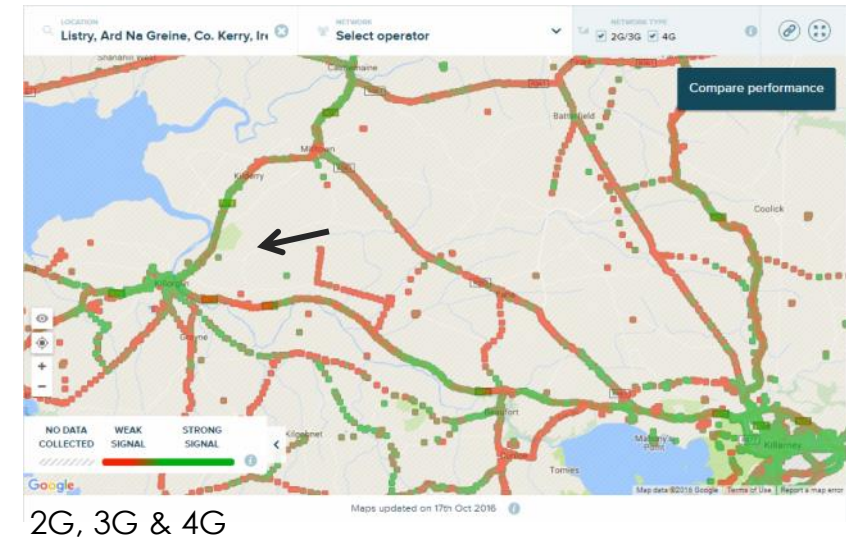


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Facts:

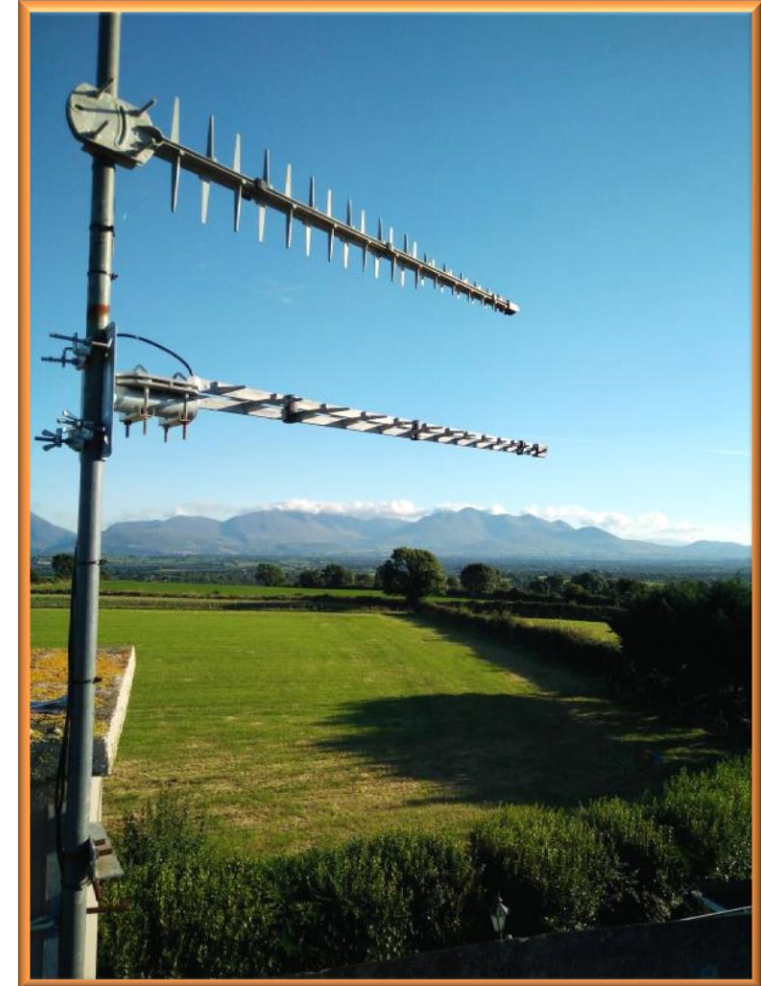
- Rural area
- Location is on the edge of the 3G(/4G) network
- Most outdoor coverage only.
- Opensignal indicate very moderate coverage if at all.
- The Base station is remote
- Performance received with the XPOL-2 already shows enormous improvements compared to average speeds as indicated by OpenSignal.com

Network Stats				
This shows the average stats OpenSignal users measured in this area.				
OPERATOR	DOWNLOAD (Mbps)	UPLOAD (Mbps)	LATENCY (ms)	SIGNAL
 Vodafone	23.5	4.3	43	■■■
 3	13.9	4.7	90	■■■
 Meteor	8.3	3.6	174	■■■



The Solution:

- Mounting of 2 Poynting LDPA-92 directional antennas as high as possible
- One LDPA-92 is mounted vertical, the other horizontal.
- Identify the base station with the best available signal-strength (not necessarily the closest) & least occupied
 - OpenSignal gives a rough indication
 - Best to use a authorized installer and signal meter
- Omni directional antennas are not an option:
 - as they need average to good signal levels
 - and make use of reflections, here not available
- Products used:
 - LDPA-92 Directional antenna 698 – 3000 MHz with 12 dBi gain and superb pattern
 - BRKT-30 special mounting brackets for the LDPA-92
 - HDF-195 low loss cables.



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Results:

- Speeds up to 60 Mb
- Improved connection stability
- Improved reliability
- 2 LDPA-92's improved the result by some 62% (57 Mb – 35 Mb) / 35 Mb)
- The CAT-6 LTE Advanced Huawei moden did not have a significant influence on the transmission speed.



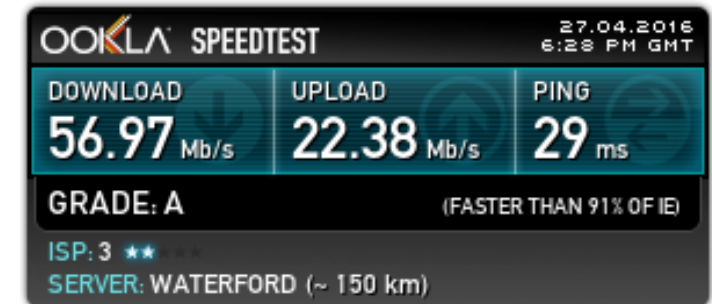
* NB.: result cannot be directly compared as different servers are used.

Results with a Poynting XPOL-2

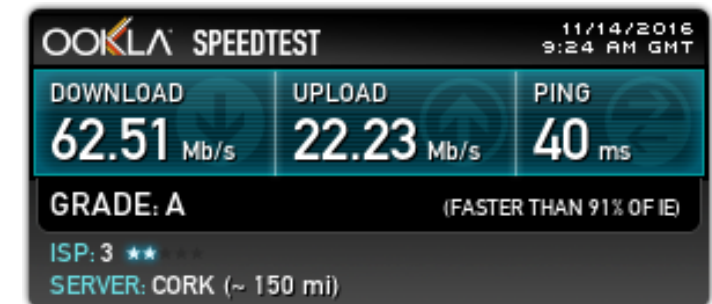
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6	Roaming:	No

Results with 2 Poynting LDPA-92's

Wireless Status		
1	PLMN:	27205
2	Service status:	Valid service
3	RSSI (dBm):	-59
4	RSRP (dBm):	-82
5	RSRQ (dB):	-9
6	Roaming:	No

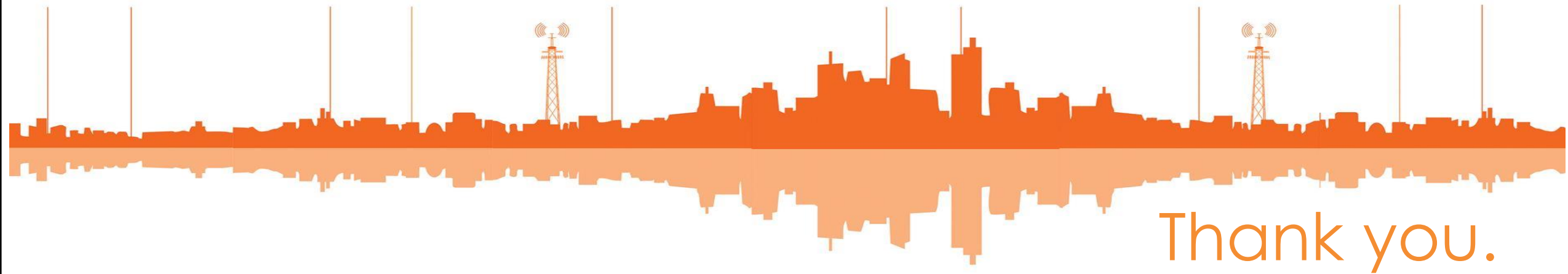


Measured with Huawei B593



Measured with E5186s-22a





Poynting Antennas – Contact Data



Your Contact



Tjeerd Huitema

Business Development Executivem & International Sales | MD Poynting Europe

+4989208026538

tjeerd.huitema@poynting.co.za

Poynting Antenas (Pty.) Ltd.

Unit 4, N1 Industrial Park, Landmarks Avenue
Samrand, Gauteng
South Africa
0157

Phone

+27 (0) 12 657 0050

Email

sales@poynting.co.za

sales-international@poynting.co.za

Poynting Europe GmbH

Regus Business Center Neue Messe Riem
Kronstadler Straße 4,
81677 München
Germany

Phone

+49 (391) 590 818 50

+49 (89) 2080 265 38

Email

customerservice@poynting.tech

