There's a plethora of IoT devices on the market from all over the world

With a plethora of IoT devices on the market from all over the world it's no wonder that some lack credible connection reliability. Cost reduction exercises for devices can mean that component costs are under scrutiny and antenna performance can be limited by low quality products selected by purchasing departments as 'equivalent' replacements.

Improve the performance of your product by selecting an alternative and better performing antenna.

At Siretta we have simplified this with our in house cellular tester the 'Snyper Graphyte'. The DELTA range of direct connect antennas for 2G/3G and 4G have been tested in the same location to show real world signal quality. Head to the download tab on the product page to see the results.

Our pick for best performing small antenna is the Delta 26, a very capable antenna for both Cellular and WiFi use. See it here.

Figure below: Delta 26 tested on the 2G and 3G network.

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GRAPHYTE Cellular Survey Results

GSM (2G) Survey Results

Cell	Index	ARFCN	dBm	%	RSSI	MCC	MNC	CellID	LAC	Band	Network Signal
1	1	104	-47	100	31	234	10	12875	21496	9 (E-GSM-900)	O2 UK
2	2	92	-47	100	31	234	15	12466	706	9 (E-GSM-900)	Vodafone
3	3	90	-63	81	25	234	15	12468	706	9 (E-GSM-900)	Vodafone
4	4	114	-66	78	24	234	10	22875	21496	9 (E-GSM-900)	O2 UK
5	5	657	-68	73	23	234	30	33360	2186	3 (DCS-1800)	EE UK
6	6	98	-69	71	22	234	15	12467	706	9 (E-GSM-900)	Vodafone
7	7	82	-70	69	21	234	15	12042	37	9 (E-GSM-900)	Vodafone
8	8	121	-72	66	20	234	10	32875	21496	9 (E-GSM-900)	O2 UK
9	9	116	-74	63	20	234	10	23776	21496	9 (E-GSM-900)	O2 UK
10	10	107	-78	56	17	234	10	37650	21496	9 (E-GSM-900)	O2 UK
11	11	96	-79	55	17	234	15	9244	706	9 (E-GSM-900)	Vodafone
12	12	111	-82	50	16	234	10	18158	21496	9 (E-GSM-900)	O2 UK
13	13	661	-85	45	14	234	30	11357	2186	3 (DCS-1800)	EE UK
14	14	102	-85	45	14	234	10	24831	21496	9 (E-GSM-900)	O2 UK
15	15	118	-86	44	14	234	10	21028	21494	9 (E-GSM-900)	O2 UK
16	16	666	-88	40	12	234	30	53175	2027	3 (DCS-1800)	EE UK
17	17	563	-96	27	8	234	15	6097	146	3 (DCS-1800)	Vodafone
18	18	553	-103	16	5	234	15	6894	37	3 (DCS-1800)	Vodafone
19	19	545	-105	13	4	234	15	6159	37	3 (DCS-1800)	Vodafone

GSM (2G) Summary Results

Net Name	ID	85%	70%	55%	40%	25%	10%
O2 UK	23410	1	2	5	8	8	8
Vodafone	23415	1	3	4	5	6	8
EE UK	23430	0	1	1	2	3	3

UMTS (3G) Survey Results

Cell	Index	UARFCN	dBm	%	RSSI	MCC	MNC	CellID	LAC	Band	Network Signal
1	20	2963	-40	83	78	234	10	30357017	21463	8 (E-GSM-900)	O2 UK
2	21	2938	-43	80	73	234	15	30407774	53	8 (E-GSM-900)	Vodafone
3	22	10661	-58	63	57	234	10	30359350	21463	1 (IMT-2100)	O2 UK
4	23	10761	-68	52	47	234	30	6801922	1077	1 (IMT-2100)	EE UK
5	24	10612	-75	44	40	234	20	8595963	1232	1 (IMT-2100)	3 UK
6	25	10588	-81	38	35	234	20	8595835	1232	1 (IMT-2100)	3 UK
7	26	10564	-82	37	34	234	20	8595885	1232	1 (IMT-2100)	3 UK
8	27	2987	-85	33	30	234	15	30404674	53	8 (E-GSM-900)	Vodafone
9	28	10687	-94	23	21	234	15	47176210	9	1 (IMT-2100)	Vodafone

UMTS (3G) Summary Results

Net Name	ID	85%	70%	55%	40%	25%	10%
O2 UK	23410	0	1	2	2	2	2
Vodafone	23415	0	1	1	1	2	3
EE UK	23430	0	0	0	1	1	1
3 UK	23420	0	0	0	1	3	3

A good way to improve performance of the antenna is to remove it from the device and place it on a magnetic base. The cable allows the antenna to be raised up away from the device and possible electronic interference, improving the signal quality. A 500mm elevation could make

all the difference, take a look at our magnetic bases for cellular, ISM, WiFi and Bluetooth antennas.

The following links take you to the product range:

- **Magnetic Base:** https://www.siretta.com/products/rf-accessories/
- **Antennas Selector:** https://www.siretta.com/products/antennas/antenna-selector/
- **Product Comparison Tool:** https://www.siretta.com/product-comparison-tool/ (then select the DELTA Antenna Tab).