OS6

Operator Specific iRepeater

Brochure and User Guide for OS6

STELLA DORADUS

OS6 Repeater

MODEL	WEIGHT	DIMS CM	SKU	BANDS
OS6	8KG	60 x 46 x 4.8	iR6-OS	28/20/8/3/1/7
OS4	8KG	60 x 46 x 4.8	iR4-OS	28/20/8/3/1/7*

*Choose 4x of these bands

NOISE SUPPRESSION

Deepest uplink noise suppression on the market.

CARRIER AGGREGATION

6 Bands simultaneously amplified for fastest data speeds.

CELL SCANNING

Scan the signal from the operator remotely.

AMPLIFY 1 OPERATOR

Amplify the signal from one specific operator for 5G, 4G, 3G and 2G.

PORTSENSE

Visual and remote confirmation that cables and antennas are correctly connected.

REMOTE MONITORING

Alerts.
History graphs.
Network Scans.

Specifications

The table below shows French mobile operator frequencies as an example. However, the frequencies can be configured for any operator.

Operator	B28	B20	B8	B3	B1	B7
SFR Downlink	758-763	801-811	951.2-958.9	1825-1845	2115.5-2125.3	2620-2635
SFR Uplink	703-708	842-852	906.2-914.9	1730-1750	1925.5-1935.3	2500-2515
Orange Downlink	763-773	811-821	933.8-924.5	1805-1825	2140.1-2144.9	2635-2655
Orange Uplink	708-718	852-862	888.8-897.5	1710-1730	1950.1-1954.9	2515-2535
Bouygues Downlink	773-778	791-801	925.1-933.8	1860-1880	2125.3-2140.1	2655-2670
Bouygues Uplink	718-723	832-842	880.1-888.8	1765-1785	1935.3-1950.1	2535-2550
Free Downink	778-788	-	944.9-949.9	1845-1860	1959.9-1964.9	2670-2690
Free Uplink	723-733	-	899.9-904.2	1750-1765	1950.1-1954.9	2550-2570

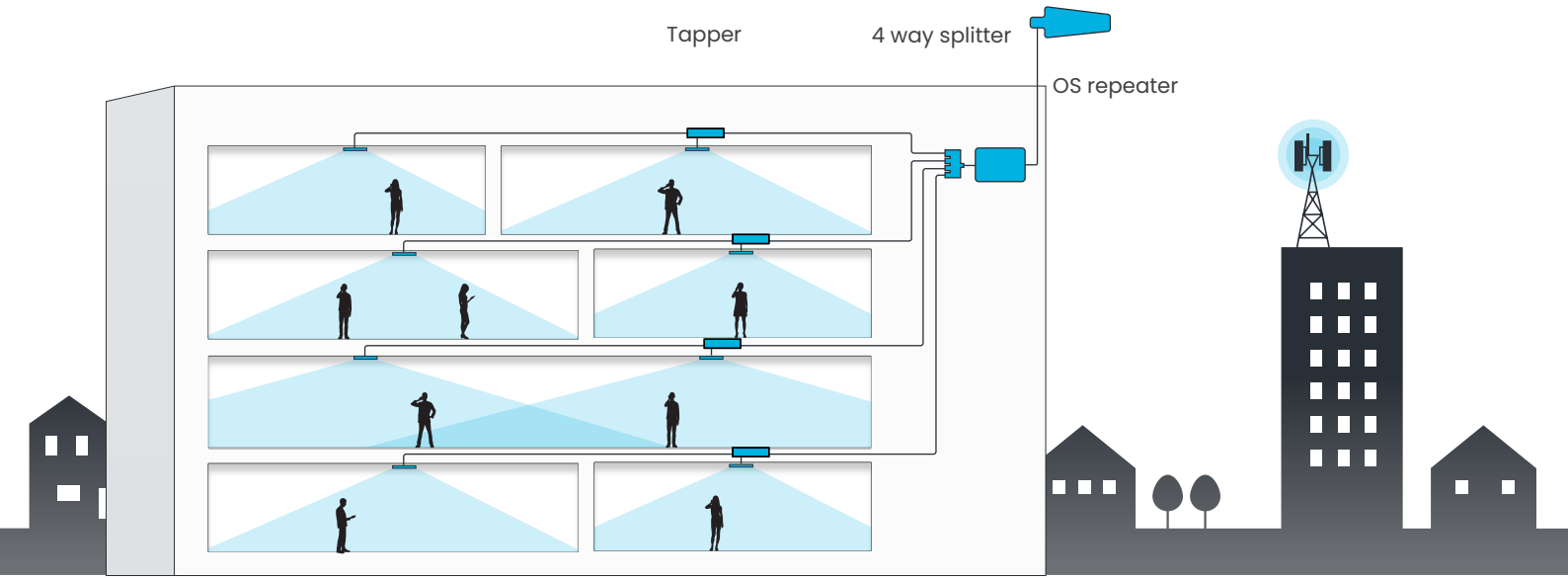
Amplifier Specification

Coverage	12-24 rooms with one OS.
System Gain	100dB
Pass band ripple	<2dB
I/O impedance	50 ohm/N female connector
Max up/down signal strength	20dBm / 21dBm
Ambient Temperature	0°C to +30°C
Power supply input	110 - 240V AC
Power supply output	48v DC
Oscillation Control	Automatic
AGC Level Control:	Automatic[1]
AGC Range	0 to 42dB
Uplink Switch On	Yes - Automatic (-90dBm/100kHz when switched off)
Surge protection	N-Female connectors DC, 48V DC port MOV protected
Port Sense	Yes
Embedded modem	Yes
Noise figure	< 10dB
Delay	< 10µS
UL / DL Isolation	Max gain -30dB
Noise power density	< -84dBm /Hz

Antennas	Indoor Panel	Outdoor Yagi
Nominal Gain	6.4dBi / 9.4dBi	10dBi
3dB beam Pattern	60° x 60°	60° x 50°
Bandwidth	700MHz - 2700MHz	700MHz - 2700MHz
VSWR	<1.4	<1.5
Polarization	Vertical	Vertical
Power Rating	50W	50W
Termination	N-Female	N-Female
Dimensions	210 x 180 x 43mm	442 x 205 x 62mm
Weight	0.68kg	1.2kg
Wind velocity	126km/hr	140km/hr
Working temperature	-40°C to +65°C	-40°C to +65°C

How it Works

The Operator Specific Repeater 6band (OS6) is a commercial grade cellular amplifier that amplifies the signal from one specific mobile operator.
When connected to the StellaControl platform, the OS6 can be remotely managed, monitored, and adjusted, as well as receive real-time measurements of signal power, signal gain, and other control metrics for each band.
With the integrated modem, the signal from the operator can be scanned remotely.
This repeater has uplink noise suppression down to less that -90dBm.



4X Internal antennas

Internal cables 4x15m SD240

OS6 iRepeater

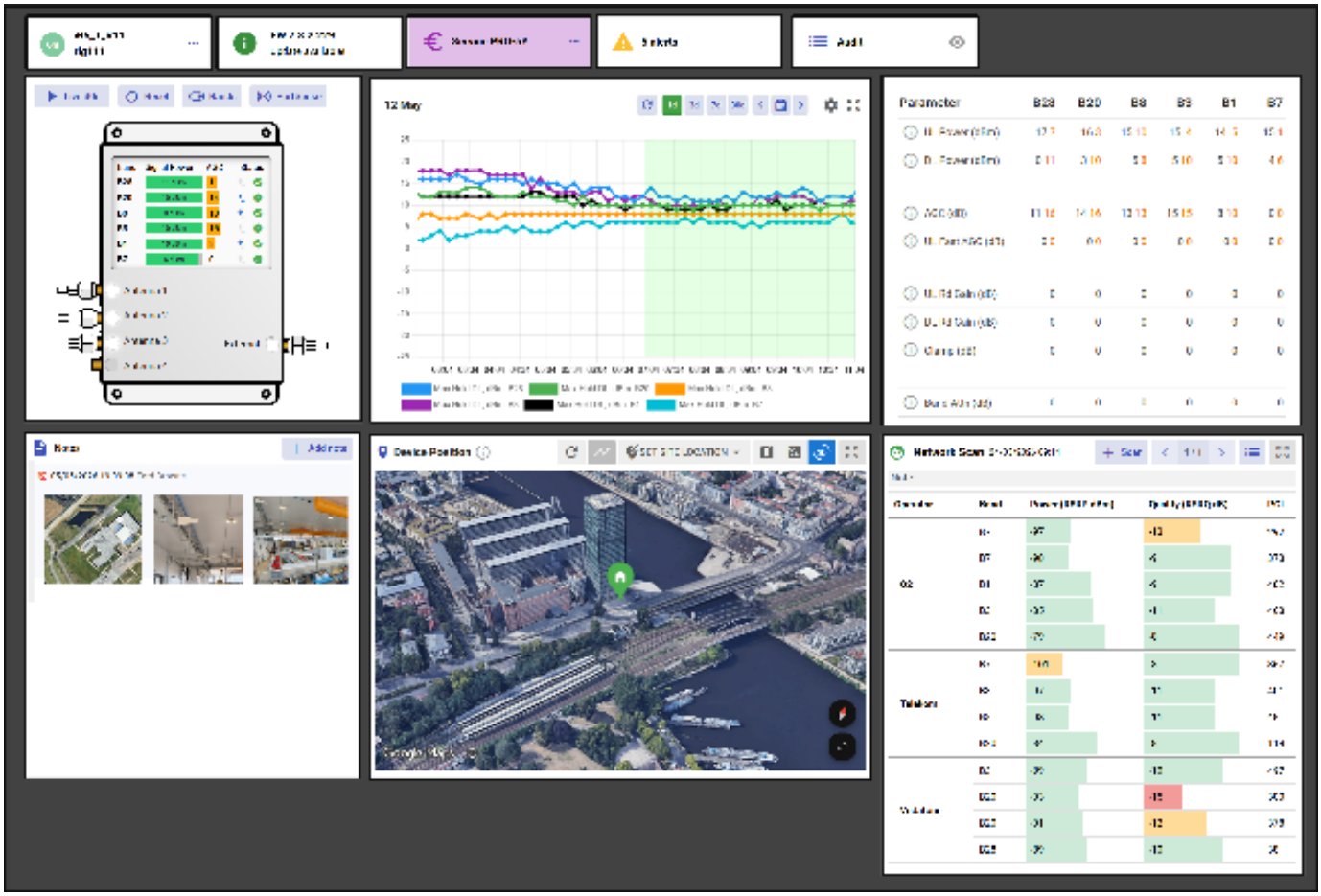
External 15m cable SD400

External Antenna

StellaControl Monitoring Platform

StellaControl is our cloud based monitoring platform where repeaters are stored and managed remotely. Many metrics are recorded, including:

- The status of the repeater.
- Remote scans of the signal from the operator.
- History graphs.
- Alerts are sent to the client if there are any changes to the RF environment.



Cell Scanning

EMBEDDED CELLULAR MODEM

The OS6 has an internal embedded cellular modem that automatically connects to StellaControl, without the need to connect an ethernet cable. This means the repeater is always accessible remotely for monitoring.

CELL SCANNING

Cell ID Scan The outdoor Yagi antenna is detecting these cells outside the building Hide bands not boosted by the device

Operator	Band	Cell ID	Power (RSRP dBm)	Quality (RSRQ dB)	PCI
Bouygues	B1	135074069	-102	-20	58
	B1	134511638	-102	-20	317
	B3	134443777	-100	-17	245
	B20	134194695	-91	-13	317
	B28	134194707	-89	-11	317
Free Mobile	B1	103340852	-101	-14	427
	B3	103340882	-108	-19	427
	B28	107786056	-88	-10	230
Orange	B20	20654597	-88	-17	262
SFR	B20	162868231	-96	-17	130
	B28	162073369	-93	-15	328

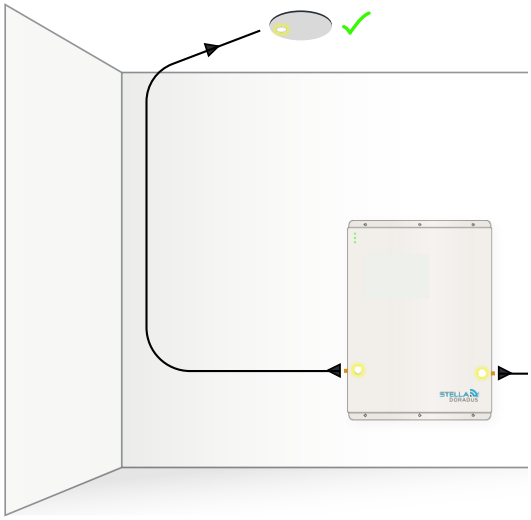
Raw Data

The mobile signal of all operators can be scanned outside the building. This is very useful for troubleshooting and monitoring the ever-changing RF environment.

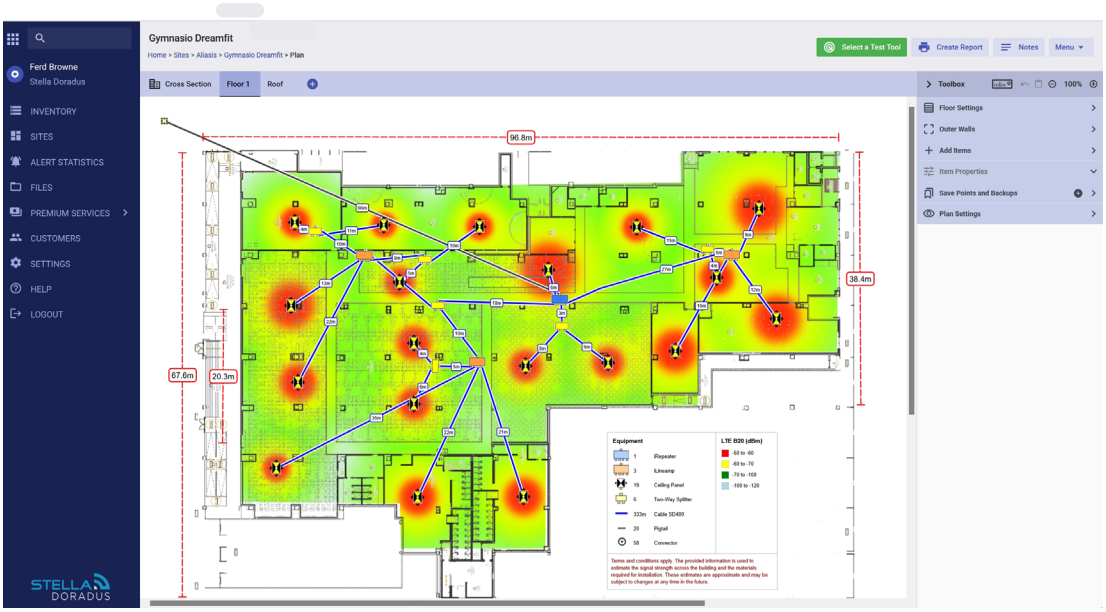
PortSense

A white LED on the repeater and corresponding LED in each antenna allows visual confirmation that every cable is correctly made and all antennas are working.

This assures the installer that the antennas are outputting signal and there are no faults in the cables.

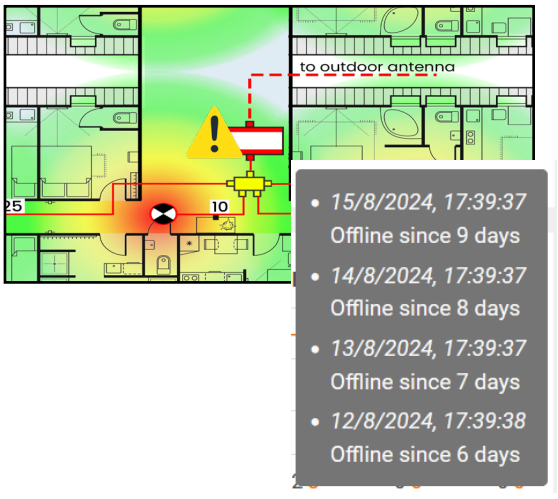


Stella Planner



STELLA PLANNER

Repeater systems can be designed with the StellaPlanner. Building plans are uploaded and antennas placed in the desired locations. The tool calculates signal power and RF losses in the design. All projects can be stored in a personalized account on StellaControl. Stella helps you to design the optimal repeater system.



ALERTS

Email alerts are automatically sent to the installer if there are any changes to the system, eg. an amplifier is disconnected, or the operator installs a new base station antenna in the vacinity. This forewarns the installer/Stella of potential issues and to take corrective action.

Stella Doradus

Coolfinn, Portlaw, Waterford, X91NH59 Ireland

P. +353 51 387145 info@stelladoradus.com
www.stelladoradus.com