HAMNET Learning by doing

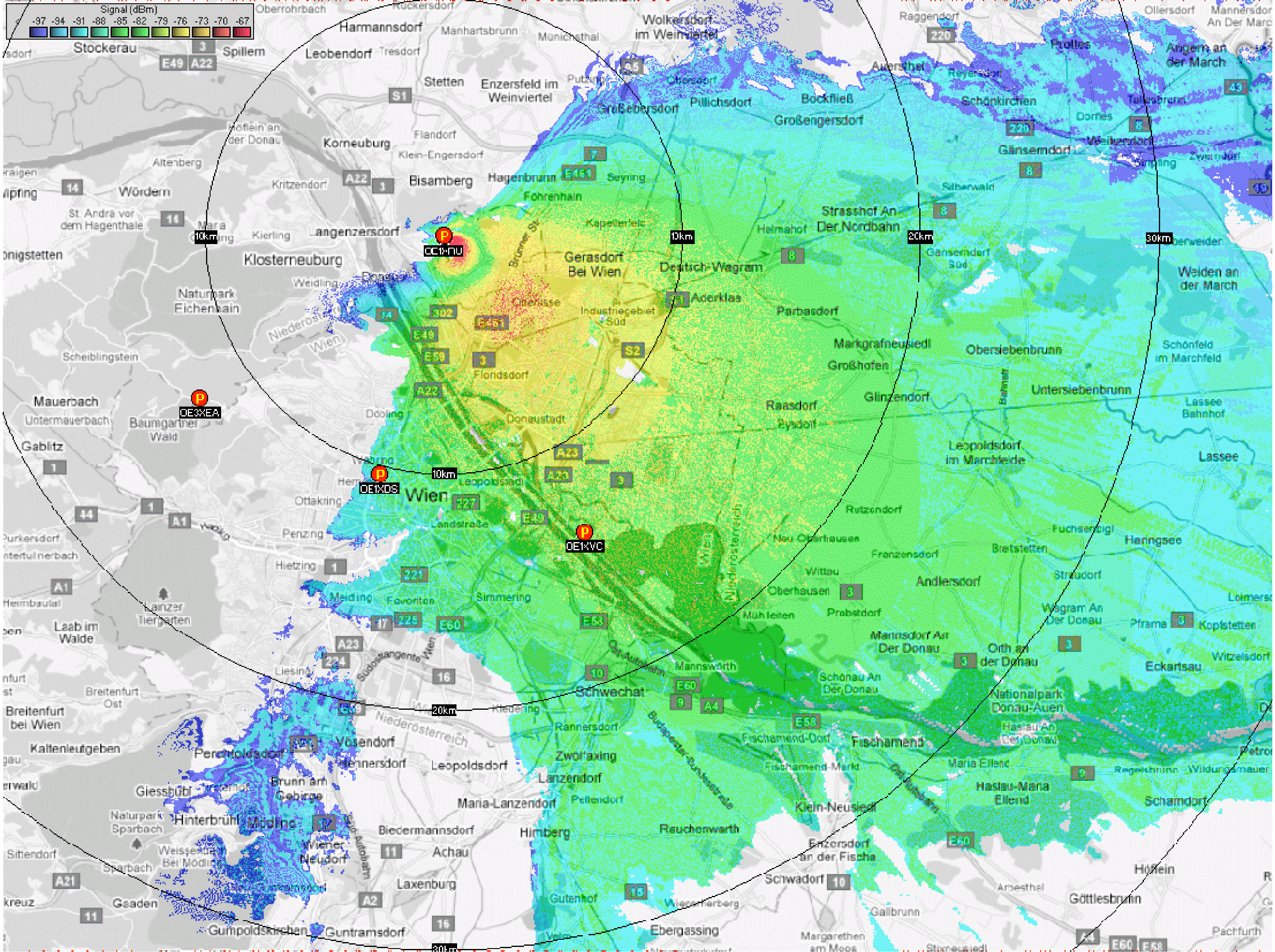
Gregor OE1SGW und Kurt OE1KBC

25. Nov. 2010 im LV1

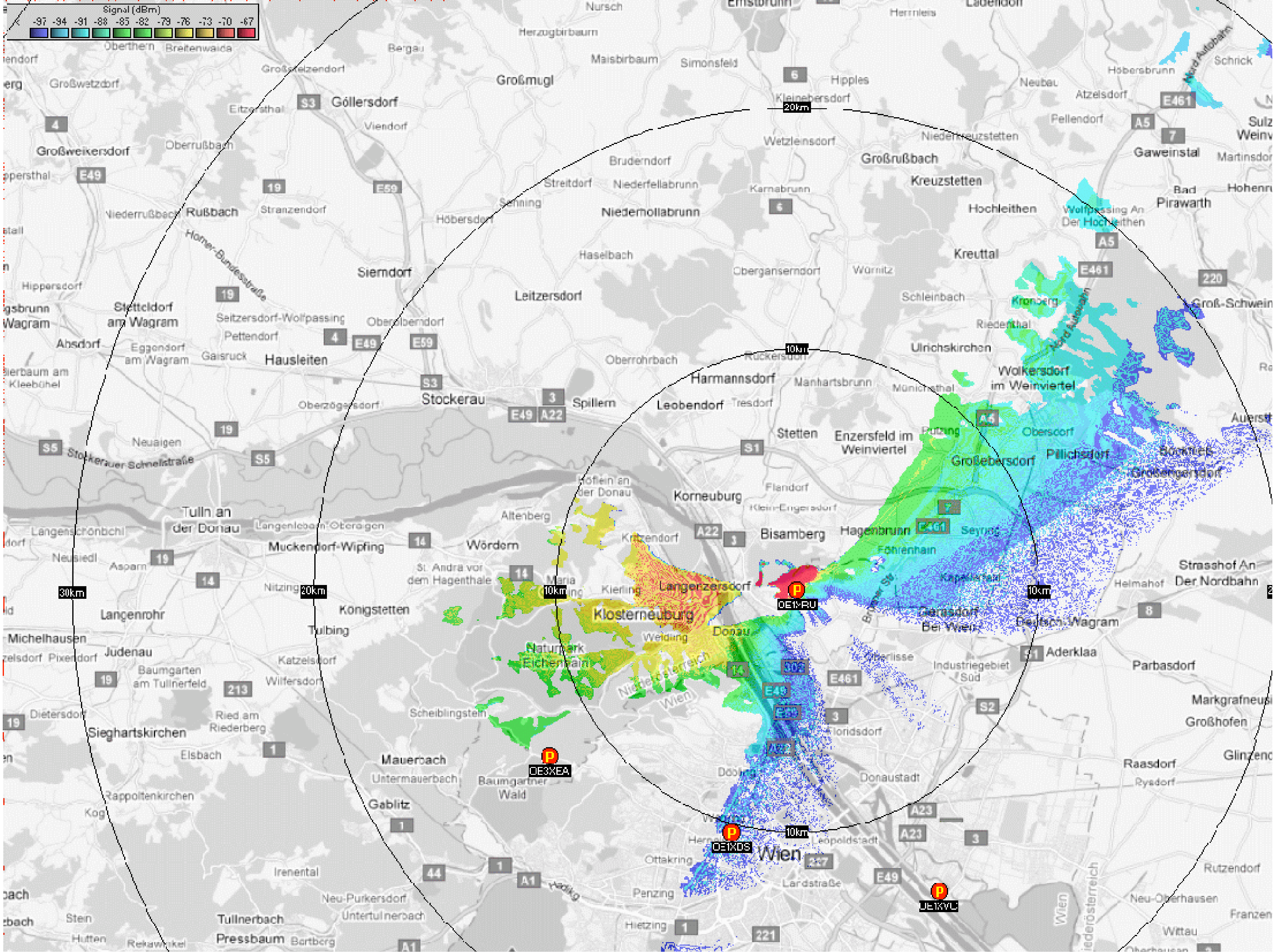
Userzugang Bisamberg

- Sektor 90°
- Richtung: Gerasdorf
- Frequenz: 5745MHz

- Sektor 120°
- Richtung: Klosterneuburg
- Frequenz: 5785MHz



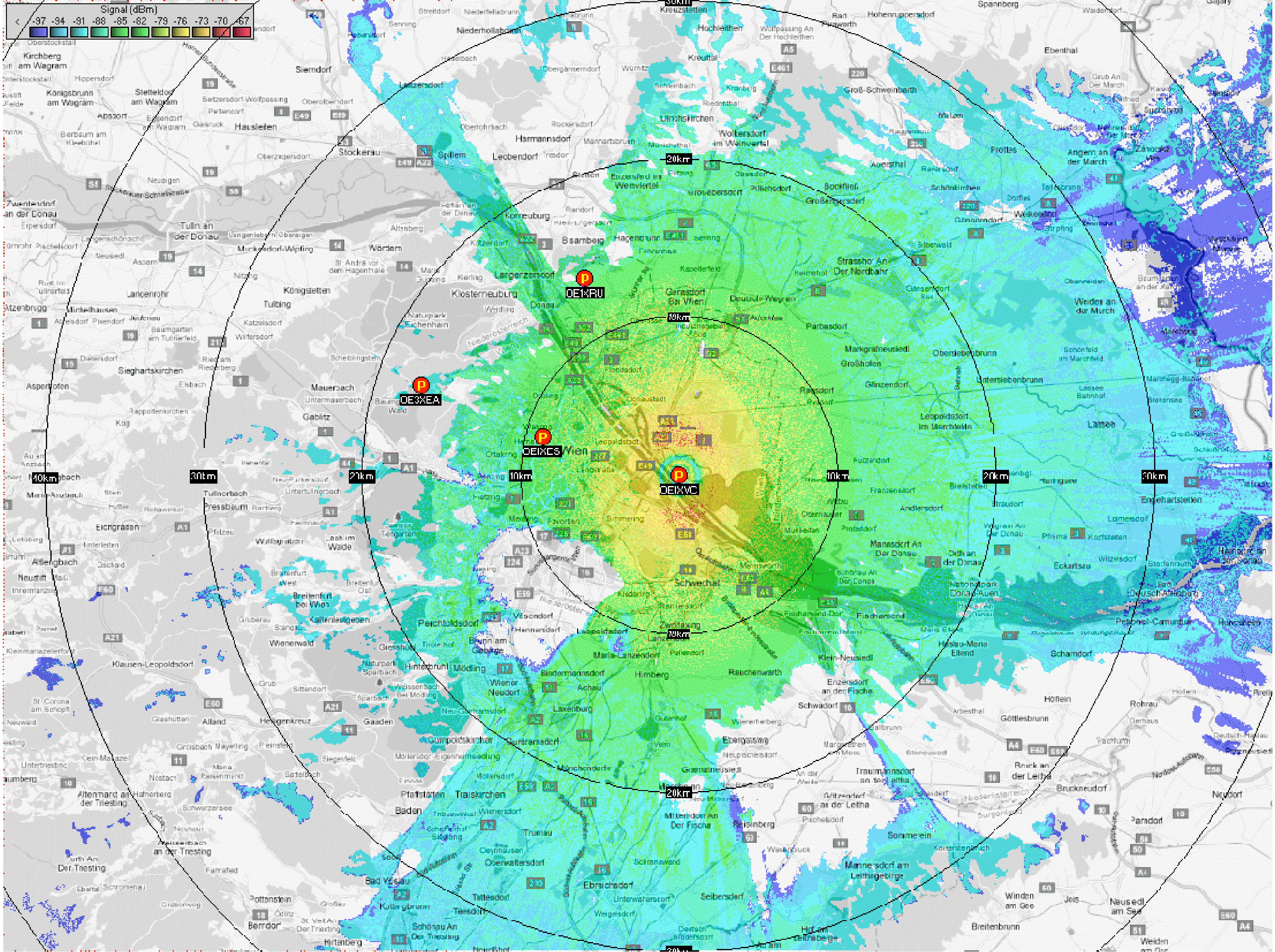
Signal (dBm)
-97 -94 -91 -88 -85 -82 -79 -76 -73 -70 -67
OE1XDS
OE1XVC
OE3XEA
10km
20km
30km
Stockerau
Harmannsdorf
Leobendorf
Spillern
Stetten
Enzersfeld im Weinviertel
Wolkersdorf im Weinviertel
Korneuburg
Bisamberg
Hagenbrunn
Langenzersdorf
Klosterneuburg
Wördern
Naturpark Eichenhain
Mauerbach
Gablitz
Baumgartner Wald
Gerasdorf Bei Wien
Deutsch-Wagram
Aderklaa
Parbasdorf
Markgrafneusiedl
Großhofen
Glinzendorf
Raasdorf
Obersiebenbrunn
Untersiebenbrunn
Leopoldsdorf im Marchfelde
Lassee
Weiden an der March
Strasshof An Der Nordbahn
Gänserndorf
Pillichsdorf
Bockfließ
Großengersdorf
Großebersdorf
Auersthal
Schönkirchen
Prottes
Angern an der March
Floridsdorf
Donaustadt
Wien
Ottakring
Penzing
Hietzing
Meidling
Favoriten
Simmering
Landstraße
Leopoldstadt
Schwechat
Rannersdorf
Zwölfaxing
Lanzendorf
Maria-Lanzendorf
Himberg
Leopoldsdorf
Vösendorf
Perchtoldsdorf
Brunn am Gebirge
Mödling
Hinterbrühl
Wiener Neudorf
Biedermannsdorf
Achau
Laxenburg
Gumpoldskirchen
Guntramsdorf
Gaaden
Breitenfurt bei Wien
Kaltenleutgeben
Laab im Walde
Lainzer Tiergarten
Gießhübl
Rauchenwarth
Klein-Neusiedl
Enzersdorf an der Fischa
Schwadorf
Ebergassing
Fischamend
Haslau-Maria Ellend
Orth an der Donau
Mannsdorf An Der Donau
Eckartsau
Andlersdorf
Haringsee
Schönau An Der Donau
Nationalpark Donau-Auen
Scharndorf
Göttlesbrunn
Höflein


Signal (dBm)
-97 -94 -91 -88 -85 -82 -79 -76 -73 -70 -67
10km
20km
30km
OE1XRU
OE3XEA
OE1XDS
OE1XVC
Großmugl
Göllersdorf
Großweikersdorf
Rußbach
Niederhollabrunn
Großrußbach
Kreuzstetten
Hochleithen
Pirawarth
Gaweinstal
Sierndorf
Leitzersdorf
Kreuttal
Stetteldorf am Wagram
Absdorf
Hausleiten
Harmannsdorf
Ulrichskirchen
Wolkersdorf im Weinviertel
Stockerau
Spillern
Leobendorf
Stetten
Enzersfeld im Weinviertel
Großebersdorf
Pillichsdorf
Tulln an der Donau
Korneuburg
Bisamberg
Hagenbrunn
Muckendorf-Wipfing
Wördern
Langenzersdorf
Klosterneuburg
Königstetten
Tulbing
Langenrohr
Michelhausen
Judenau
Naturpark Eichenhain
Deutsch-Wagram
Aderklaa
Parbasdorf
Strasshof An Der Nordbahn
Sieghartskirchen
Mauerbach
Gablitz
Raasdorf
Großhofen
Wien
Tullnerbach
Pressbaum

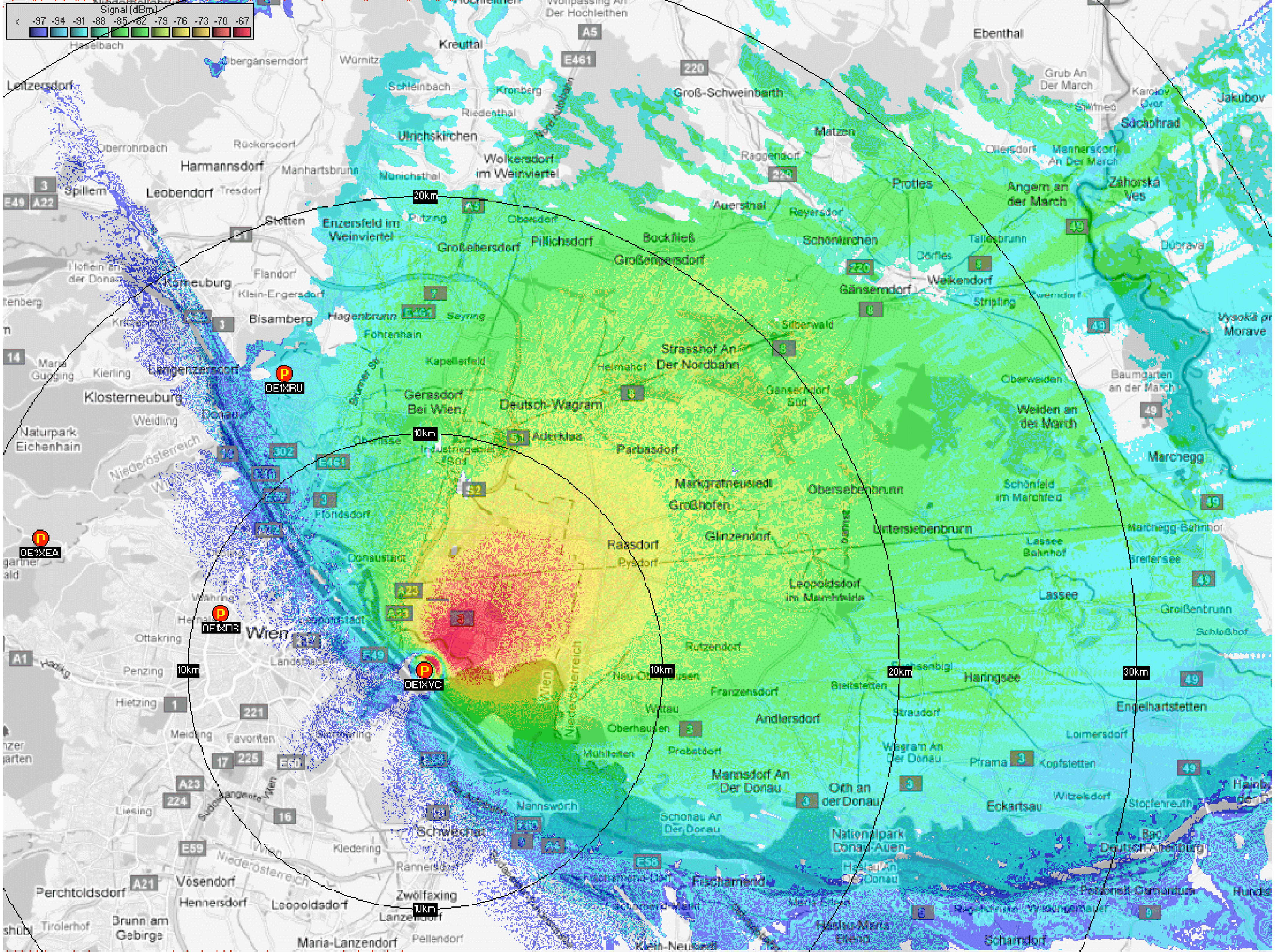
Userzugang Roter Hiasl

- Rundstrahler
- Freqenz: 5745MHz

- Sektor 60°
- Richtung: Gänserndorf
- Frequenz: 5785MHz



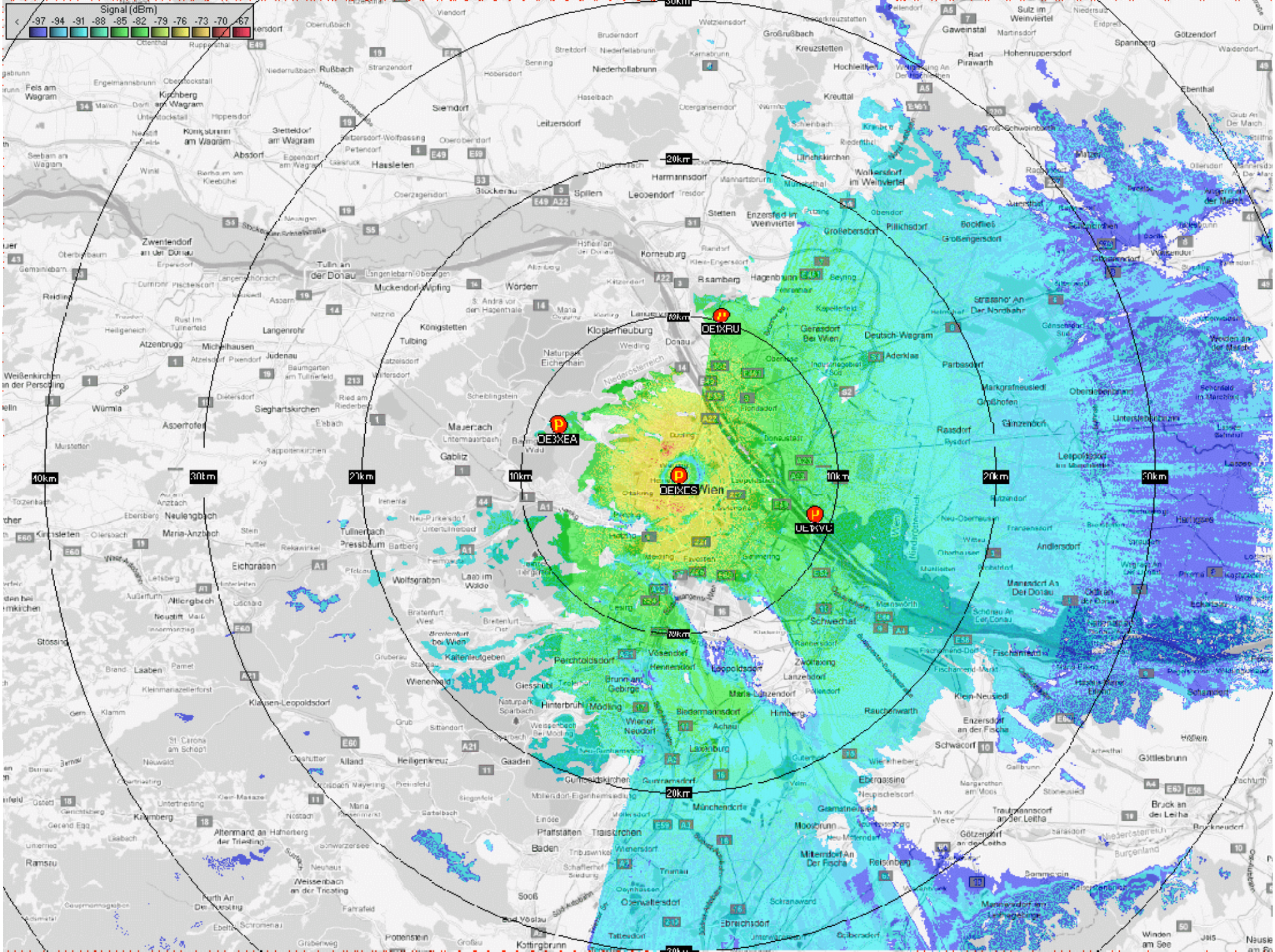
Signal (dBm)
-97 -94 -91 -88 -85 -82 -79 -76 -73 -70 -67
OE1XVC
OE1XRU
OE3XEA
OE1XCS
10km
20km
30km
40km
Wien
Klosterneuburg
Korneuburg
Stockerau
Tulln an der Donau
Schwechat
Mödling
Baden
Gerasdorf bei Wien
Deutsch-Wagram
Strasshof An Der Nordbahn
Marchegg
Hainburg an der Donau
Bruck an der Leitha
Himberg
Purkersdorf
Pressbaum
Traiskirchen
Ebreichsdorf
Wolkersdorf im Weinviertel
Orth an der Donau
Petronell-Carnuntum



Signal (dBm)
< -97 -94 -91 -88 -85 -82 -79 -76 -73 -70 -67
OE1XVC
OE1XRU
OE1XEA
OE1XDR
10km
20km
30km
Wien
Klosterneuburg
Deutsch-Wagram
Gerasdorf Bei Wien
Strasshof An Der Nordbahn
Gänserndorf
Markgrafneusiedl
Großhofen
Glinzendorf
Raasdorf
Parbasdorf
Aderklaa
Obersiebenbrunn
Untersiebenbrunn
Leopoldsdorf im Marchfelde
Weiden an der March
Marchegg
Lassee
Haringsee
Engelhartstetten
Eckartsau
Orth an der Donau
Mannsdorf An Der Donau
Andlersdorf
Franzensdorf
Schwechat
Fischamend
Nationalpark Donau-Auen
Schönfeld im Marchfeld
Wolkersdorf im Weinviertel
Ulrichskirchen
Groß-Schweinbarth
Matzen
Protteş
Angern an der March
Ebenthal
Korneuburg
Bisamberg
Langenzersdorf
Stetten
Harmannsdorf
Leobendorf
Spillern
Enzersfeld im Weinviertel
Großebersdorf
Pillichsdorf
Bockfließ
Großengersdorf
Auersthal
Schönkirchen
Weikendorf
Ottakring
Penzing
Hietzing
Favoriten
Perchtoldsdorf
Vösendorf
Hennersdorf
Leopoldsdorf
Zwölfaxing
Maria-Lanzendorf
Brunn am Gebirge
Kledering
Naturpark Eichenhain
Sachsenhausen
Záhorská Ves
Vysoká pri Morave

Userzugang AKH

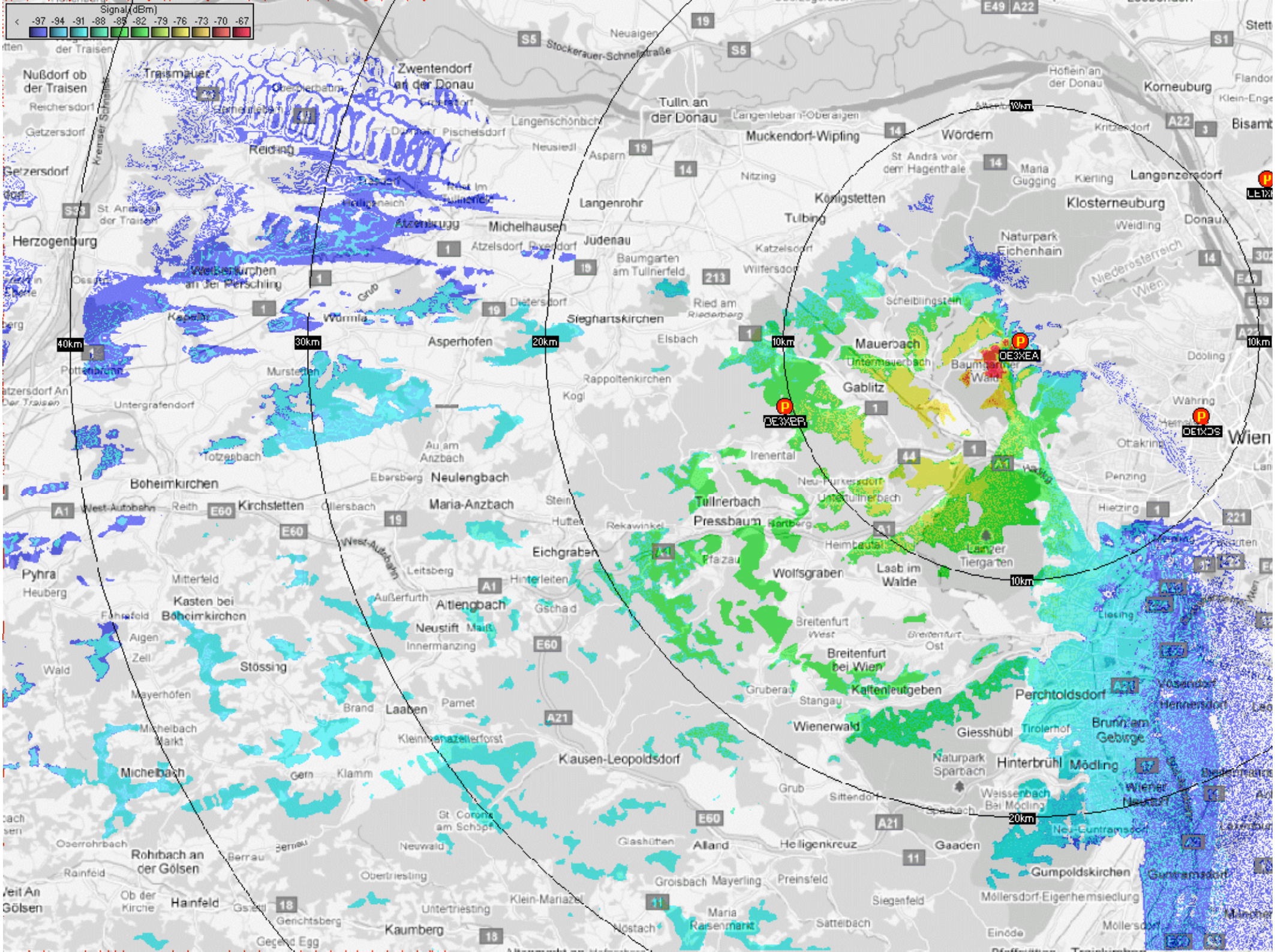
- Rundstrahler
- Frequenz: 5785MHz

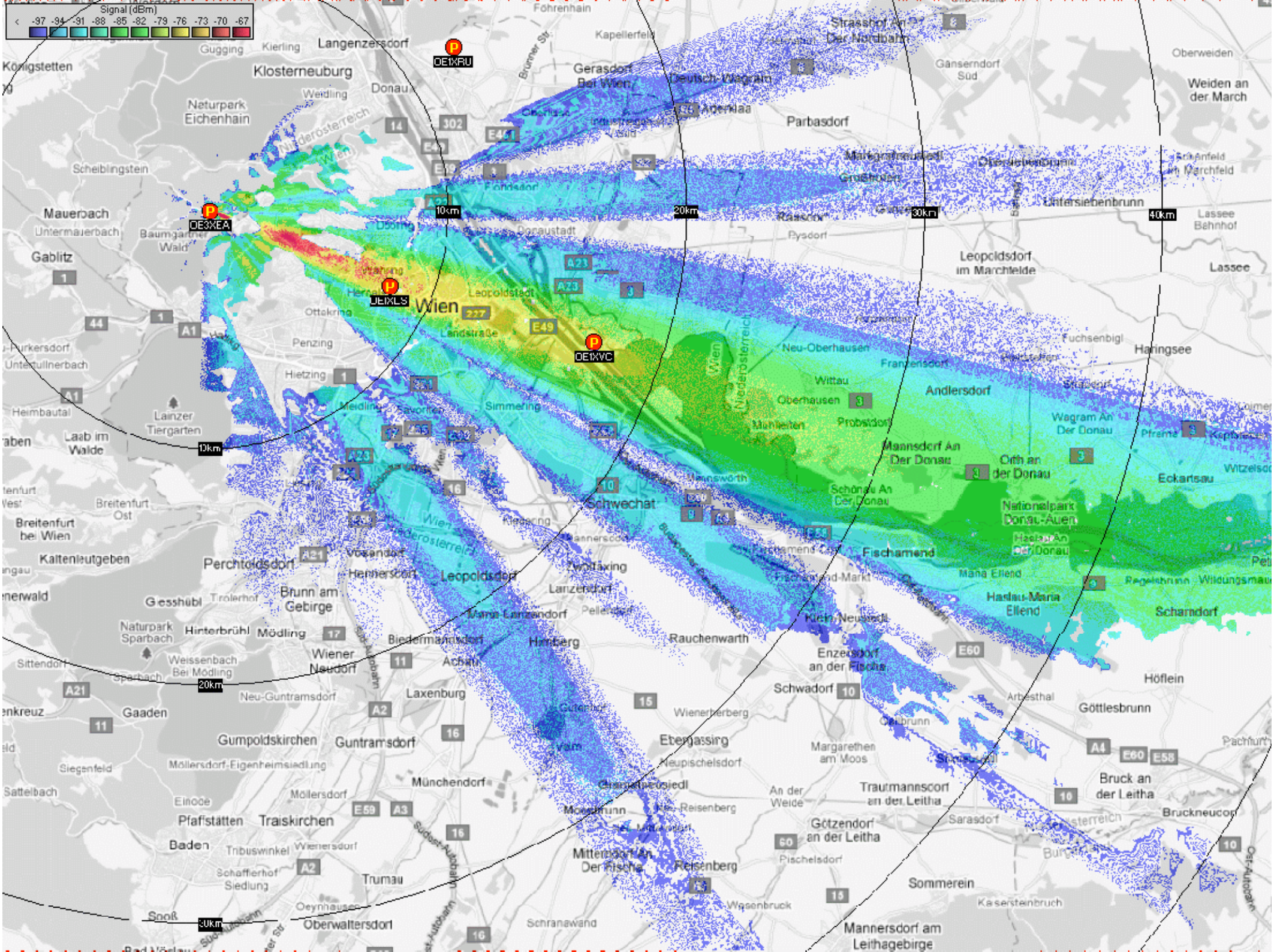

Signal (dBm)
< -97 -94 -91 -88 -85 -82 -79 -76 -73 -70 -67
OE1XRU
OE3XEA
OE1XCS Wien
OE1KVL
10km
20km
30km
40km

Userzugang Exelberg

- Sektor 60°
- Richtung: Hochramalpe
- Frequenz: 5785MHz

- Planar 10°
- Richtung: AKH
- Frequenz: 5680MHz

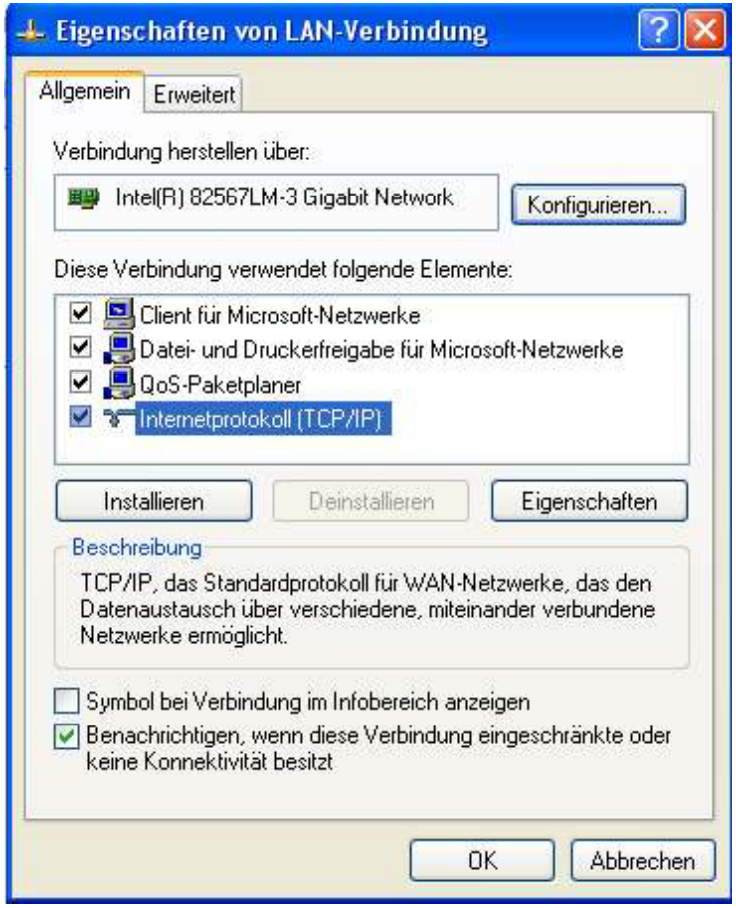

Signal (dBm)
< -97 -94 -91 -88 -85 -82 -79 -76 -73 -70 -67
Nußdorf ob der Traisen
Traismauer
Zwentendorf an der Donau
Tulln an der Donau
Muckendorf-Wipling
Wördern
Korneuburg
Höflein an der Donau
Reichersdorf
Getzersdorf
Reidling
Langenschönbichl
Neusiedl
Aspern
Nitzing
Königstetten
Tulbing
Langenrohr
Michelhausen
Judenau
Atzelsdorf
Baumgarten am Tullnerfeld
Wilfersdorf
Ried am Riederberg
Sieghartskirchen
Elsbach
Asperhofen
Herzogenburg
Wetzelsdorf
Wörmla
Dietersdorf
Kapelln
Mauerbach
Untermauerbach
Gablitz
Naturpark Eichenhain
Klosterneuburg
Weidling
Donau
Langenzersdorf
Maria Gugging
Kierling
Scheiblingstein
Rappoltenkirchen
Kogl
Pottenbrunn
Murstetten
Untergrafendorf
Totzenbach
Au am Anzbach
Boheimkirchen
Ebersberg
Neulengbach
Maria-Anzbach
Kirchstetten
Reith
Ollersbach
West-Autobahn
Irenental
Neu-Purkersdorf
Tullnerbach
Pressbaum
Hochstraß
Rekawinkel
Eichgraben
Hütteldorf
Hinterleiten
Leitsberg
Mitterfeld
Pyhra
Heuberg
Kasten bei Böheimkirchen
Außerfurth
Altlengbach
Gschaid
Neustift
Innermanzing
Wolfsgraben
Laab im Walde
Heimkehrerhof
Pfaffau
Langer Tiergarten
Otakring
Währing
Penzing
Hietzing
Döbling
Wien
Breitenfurt West
Breitenfurt Ost
Breitenfurt bei Wien
Kaltenleutgeben
Perchtoldsdorf
Vösendorf
Hennersdorf
Brunn am Gebirge
Gruberad
Stangau
Wienerwald
Giesshübl
Tirolerhof
Naturpark Sparbach
Hinterbrühl
Mödling
Weissenbach bei Mödling
Sittendorf
Grub
Kaisen-Leopoldsdorf
Stössing
Mayerhofen
Brand
Laaben
Pamet
Michelbach Markt
Michelbach
Klein-Schazelberforst
Gern
Klamm
Rohrbach an der Gölsen
Oberrohrbach
Rainfeld
Berrau
Neuwald
St. Corona am Schöpf
Glashütten
Alland
Heiligenkreuz
Gaaden
Gumpoldskirchen
Mödlersdorf-Eigenheimsiedlung
Mödlersdorf
Günselsdorf
Ob der Kirche
Hainfeld
Gerichtsberg
Untertriesting
Obertriesting
Groisbach
Mayerling
Preinsfeld
Klein-Mariazell
Maria Raisenmarkt
Siegenfeld
Sattelbach
Kaumberg
Gegend Egg
Einöde
OE3XEA
OE3XER
OE1XCS
10km
20km
30km
40km

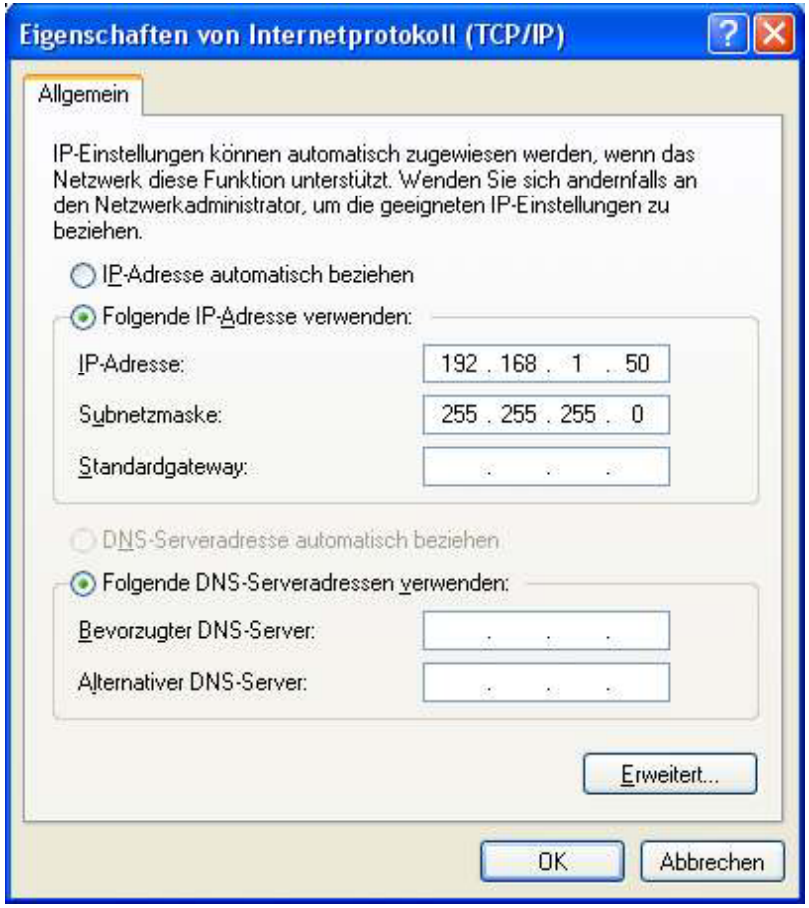

Signal (dBm)
< -97 -94 -91 -88 -85 -82 -79 -76 -73 -70 -67
OE1XRU
OE3XEA
OE1XLS
OE1XVC
10km
20km
30km
40km
Wien
Klosterneuburg
Langenzersdorf
Gerasdorf Bei Wien
Parbasdorf
Mauerbach
Gablitz
Leopoldsdorf im Marchfelde
Untersiebenbrunn
Lassee
Laab im Walde
Hietzing
Penzing
Simmering
Schwechat
Andlersdorf
Mannsdorf An Der Donau
Orth an der Donau
Eckartsau
Nationalpark Donau-Auen
Fischamend
Haslau-Maria Ellend
Scharndorf
Breitenfurt bei Wien
Kaltenleutgeben
Perchtoldsdorf
Brunn am Gebirge
Mödling
Hinterbrühl
Gaaden
Laxenburg
Gumpoldskirchen
Guntramsdorf
Ebergassing
Rauchenwarth
Enzersdorf an der Fischa
Schwadorf
Höflein
Göttlesbrunn
Bruck an der Leitha
Trautmannsdorf an der Leitha
Götzendorf an der Leitha
Sommerein
Pfaffstätten
Traiskirchen
Baden
Münchendorf
Trumau
Oberwaltersdorf
Mannersdorf am Leithagebirge

Wie richte ich meinen Zugang ein

Vorbereitung

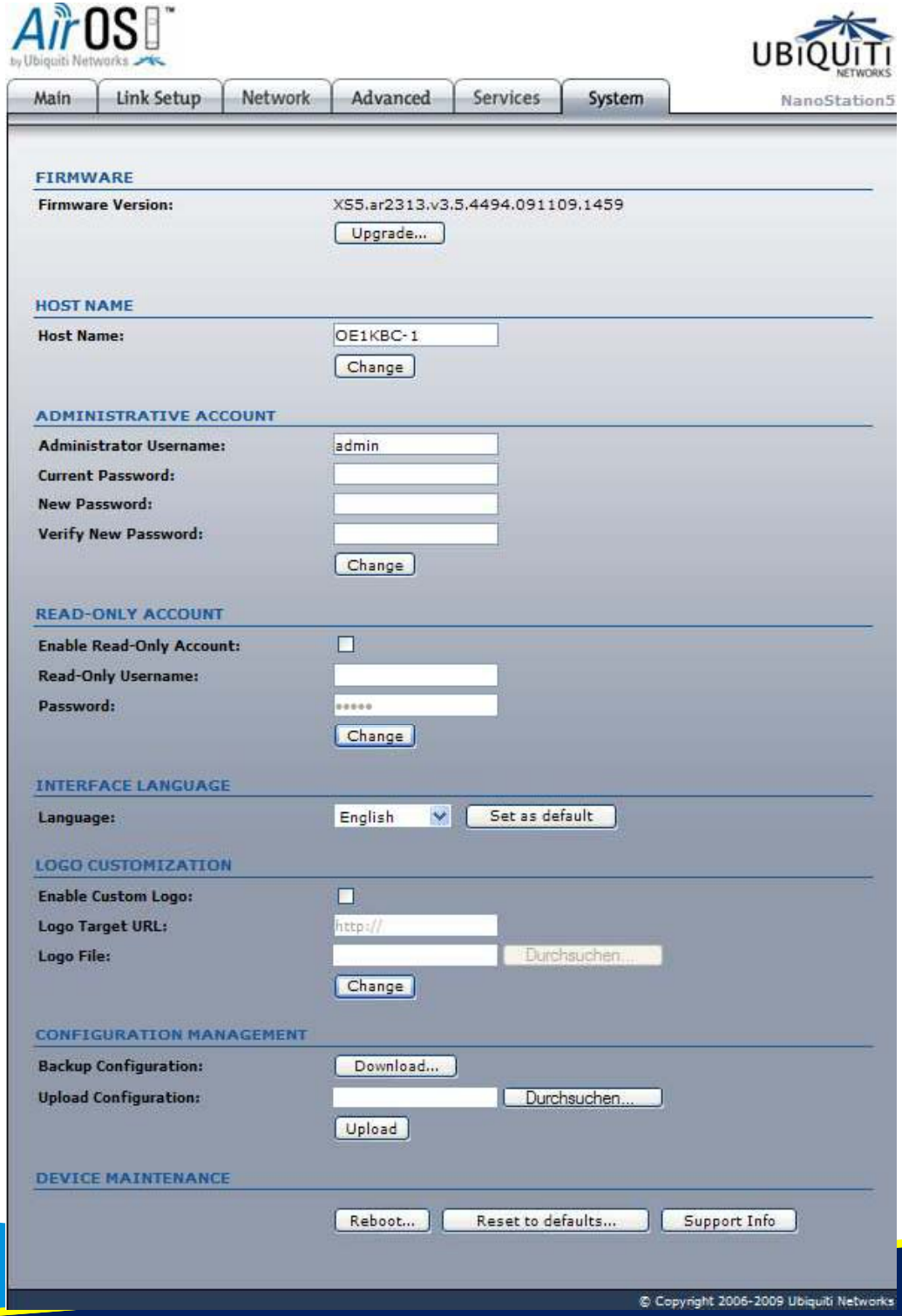
- Ubiquiti Standard IP 192.168.1.20





System Einstellungen

- Hostname = Call z.B.: OE1SGW
- Passwort nach belieben


AirOS
by Ubiquiti Networks
UBIQUITI NETWORKS
Main
Link Setup
Network
Advanced
Services
System
NanoStation5
FIRMWARE
Firmware Version:
XS5.ar2313.v3.5.4494.091109.1459
Upgrade...
HOST NAME
Host Name:
OE1KBC-1
Change
ADMINISTRATIVE ACCOUNT
Administrator Username:
admin
Current Password:
New Password:
Verify New Password:
Change
READ-ONLY ACCOUNT
Enable Read-Only Account:
Read-Only Username:
Password:
Change
INTERFACE LANGUAGE
Language:
English
Set as default
LOGO CUSTOMIZATION
Enable Custom Logo:
Logo Target URL:
http://
Logo File:
Durchsuchen...
Change
CONFIGURATION MANAGEMENT
Backup Configuration:
Download...
Upload Configuration:
Durchsuchen...
Upload
DEVICE MAINTENANCE
Reboot...
Reset to defaults...
Support Info
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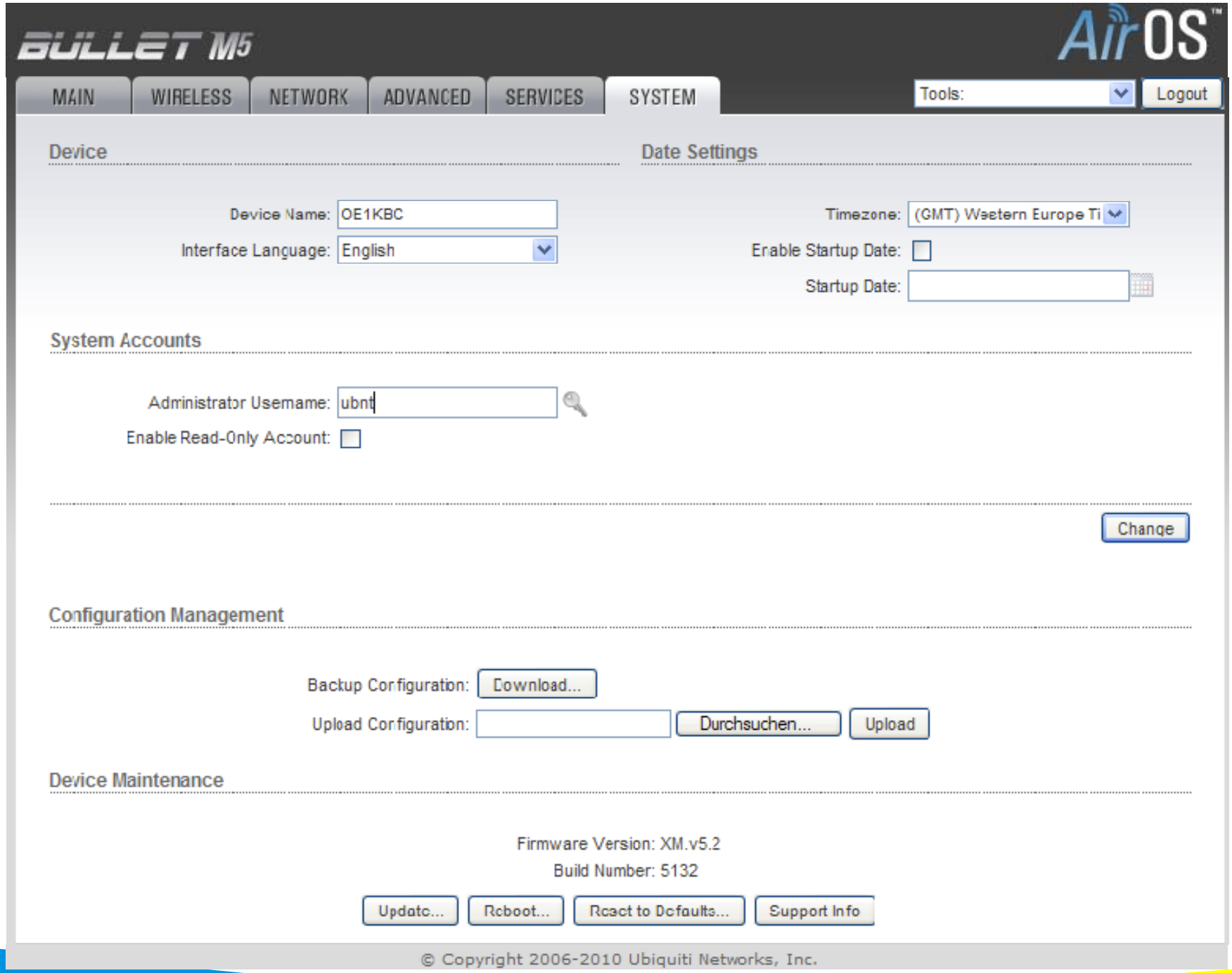
BULLET M5
AirOS
MAIN
WIRELESS
NETWORK
ADVANCED
SERVICES
SYSTEM
Tools:
Logout
Device
Device Name: OE1KBC
Interface Language: English
Date Settings
Timezone: (GMT) Western Europe Ti
Enable Startup Date:
Startup Date:
System Accounts
Administrator Username: ubnt
Enable Read-Only Account:
Change
Configuration Management
Backup Configuration: Download...
Upload Configuration: Durchsuchen... Upload
Device Maintenance
Firmware Version: XM.v5.2
Build Number: 5132
Update... Reboot... Reset to Defaults... Support Info
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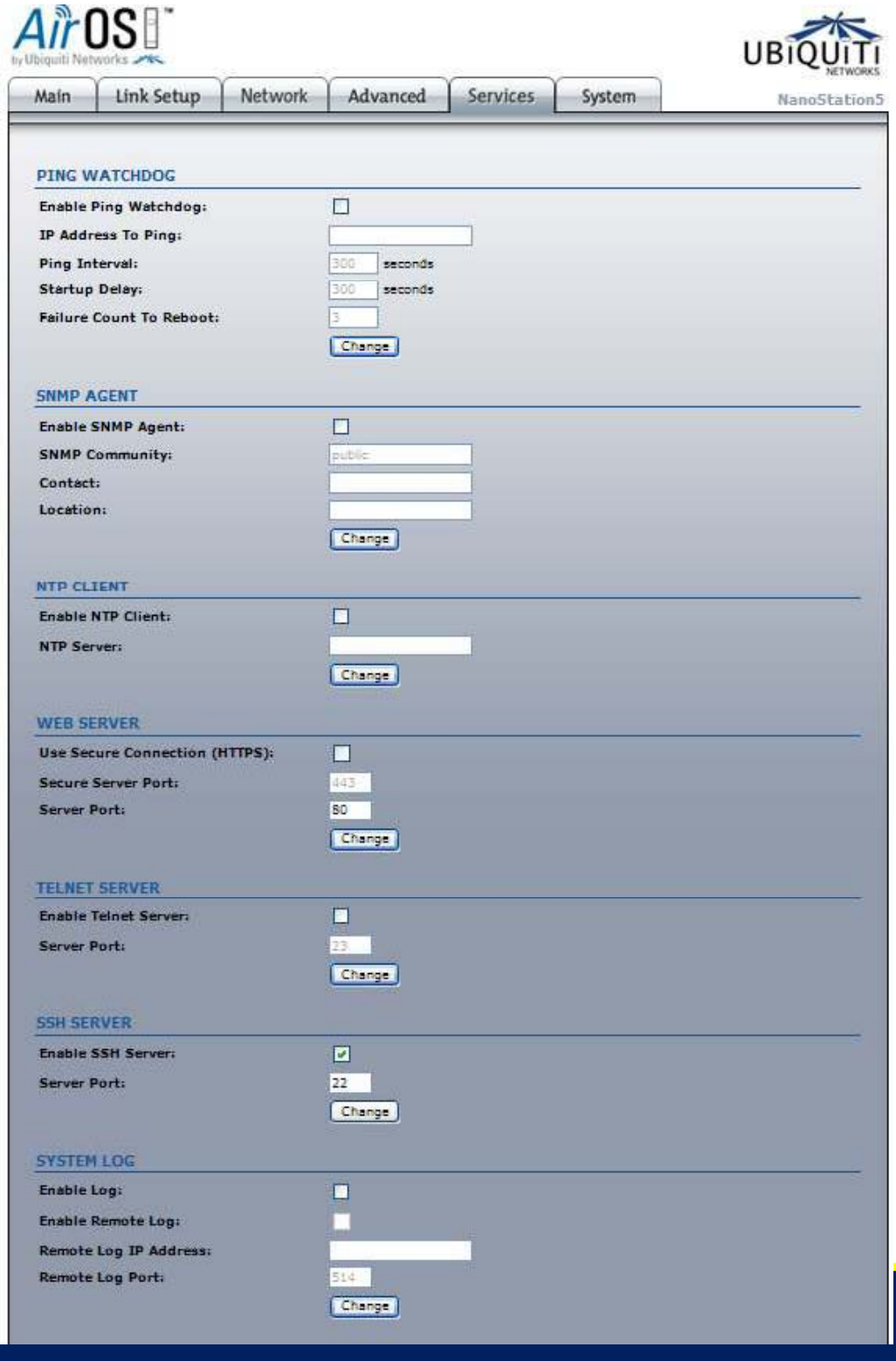
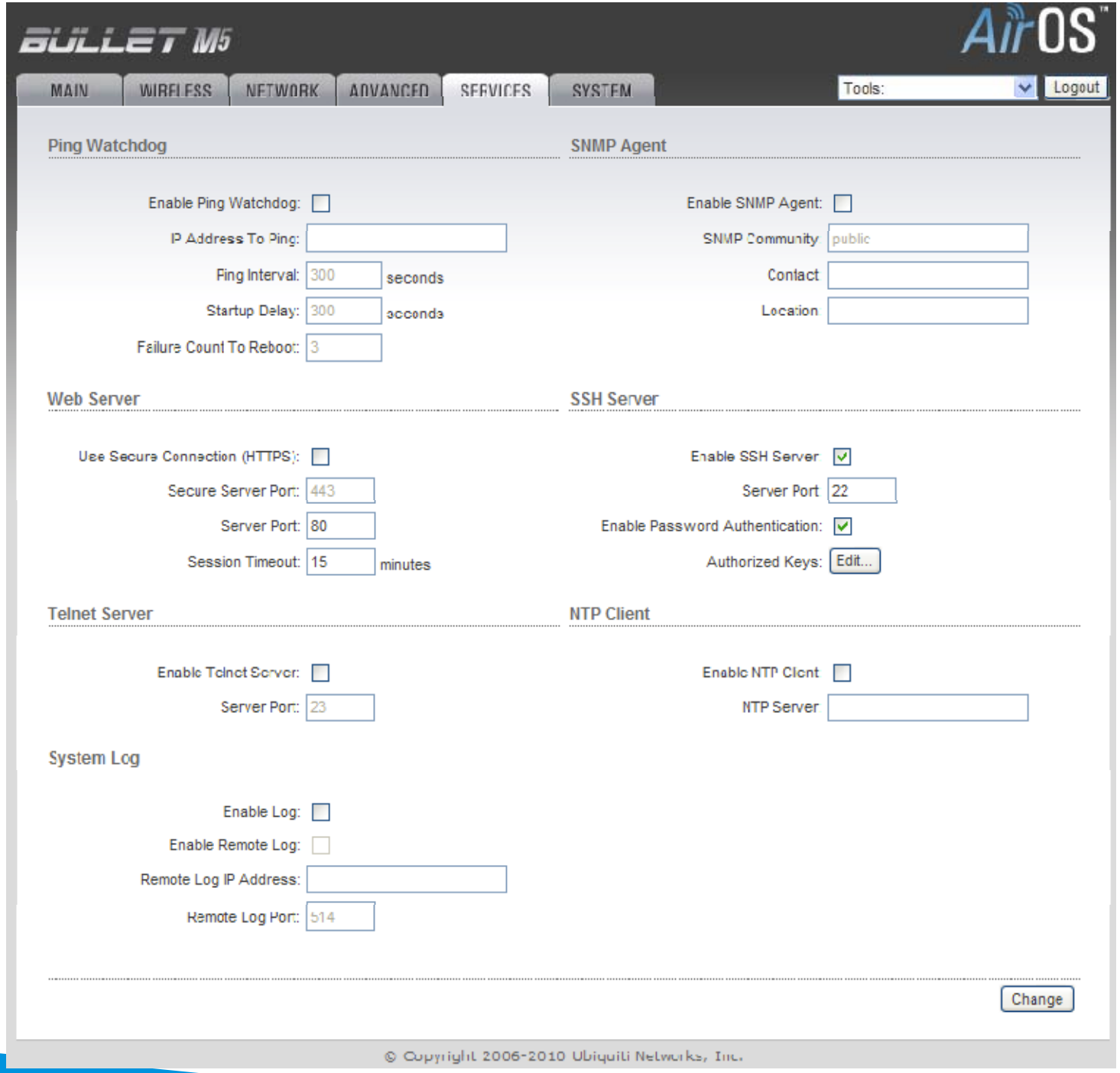
Services Einstellungen

- Alle Einstellungen auf default lassen


AirOS
by Ubiquiti Networks
UBIQUITI
NETWORKS
NanoStation5
Main
Link Setup
Network
Advanced
Services
System
PING WATCHDOG
Enable Ping Watchdog:
IP Address To Ping:
Ping Interval: 300 seconds
Startup Delay: 300 seconds
Failure Count To Reboot: 3
Change
SNMP AGENT
Enable SNMP Agent:
SNMP Community: public
Contact:
Location:
Change
NTP CLIENT
Enable NTP Client:
NTP Server:
Change
WEB SERVER
Use Secure Connection (HTTPS):
Secure Server Port: 443
Server Port: 80
Change
TELNET SERVER
Enable Telnet Server:
Server Port: 23
Change
SSH SERVER
Enable SSH Server:
Server Port: 22
Change
SYSTEM LOG
Enable Log:
Enable Remote Log:
Remote Log IP Address:
Remote Log Port: 514
Change


BULLET M5
AirOS
MAIN
WIRELESS
NETWORK
ADVANCED
SERVICES
SYSTEM
Tools:
Logout
Ping Watchdog
Enable Ping Watchdog:
IP Address To Ping:
Ping Interval: 300 seconds
Startup Delay: 300 seconds
Failure Count To Reboot: 3
SNMP Agent
Enable SNMP Agent:
SNMP Community: public
Contact:
Location:
Web Server
Use Secure Connection (HTTPS):
Secure Server Port: 443
Server Port: 80
Session Timeout: 15 minutes
SSH Server
Enable SSH Server
Server Port: 22
Enable Password Authentication:
Authorized Keys: Edit...
Telnet Server
Enable Telnet Server:
Server Port: 23
NTP Client
Enable NTP Client
NTP Server:
System Log
Enable Log:
Enable Remote Log:
Remote Log IP Address:
Remote Log Port: 514
Change
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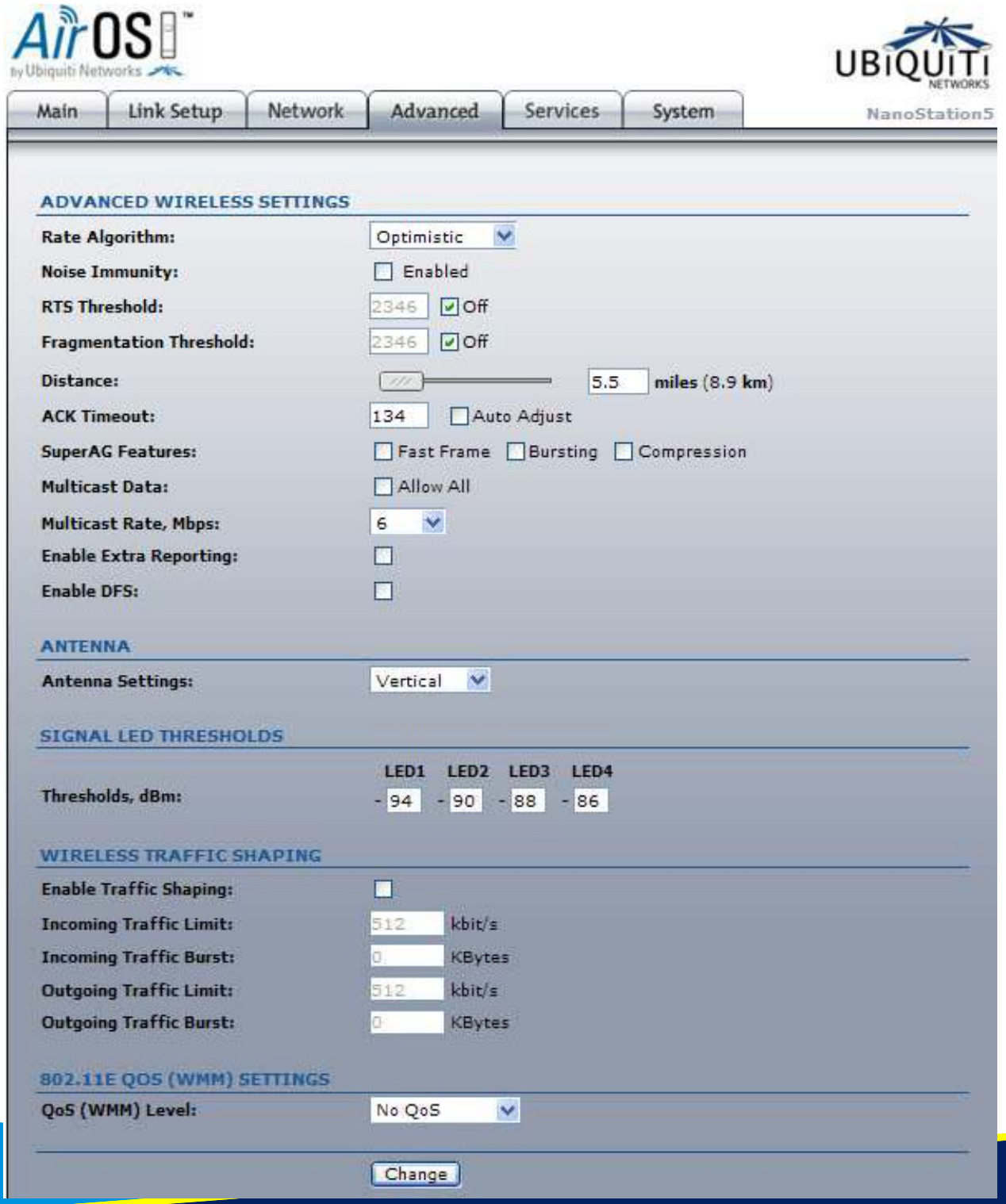
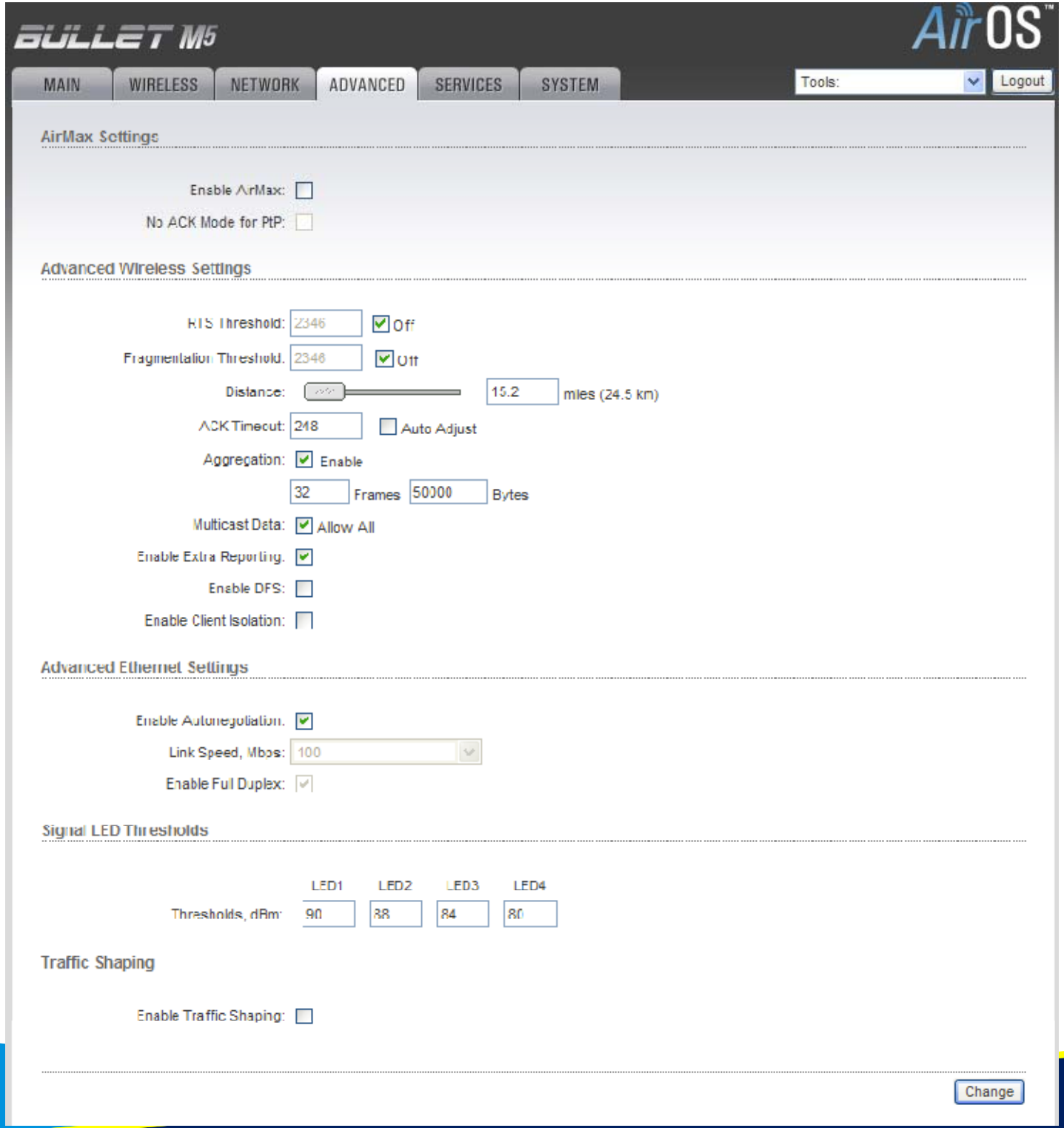
Advanced Einstellungen

- Distanz zum AP einstellen
- Treshold der Leds einstellen


AirOS by Ubiquiti Networks
UBIQUITI NETWORKS
NanoStation5
Main
Link Setup
Network
Advanced
Services
System
ADVANCED WIRELESS SETTINGS
Rate Algorithm: Optimistic
Noise Immunity: Enabled
RTS Threshold: 2346 Off
Fragmentation Threshold: 2346 Off
Distance: 5.5 miles (8.9 km)
ACK Timeout: 134 Auto Adjust
SuperAG Features: Fast Frame Bursting Compression
Multicast Data: Allow All
Multicast Rate, Mbps: 6
Enable Extra Reporting:
Enable DFS:
ANTENNA
Antenna Settings: Vertical
SIGNAL LED THRESHOLDS
LED1 LED2 LED3 LED4
Thresholds, dBm: -94 -90 -88 -86
WIRELESS TRAFFIC SHAPING
Enable Traffic Shaping:
Incoming Traffic Limit: 512 kbit/s
Incoming Traffic Burst: 0 KBytes
Outgoing Traffic Limit: 512 kbit/s
Outgoing Traffic Burst: 0 KBytes
802.11E QOS (WMM) SETTINGS
QoS (WMM) Level: No QoS
Change

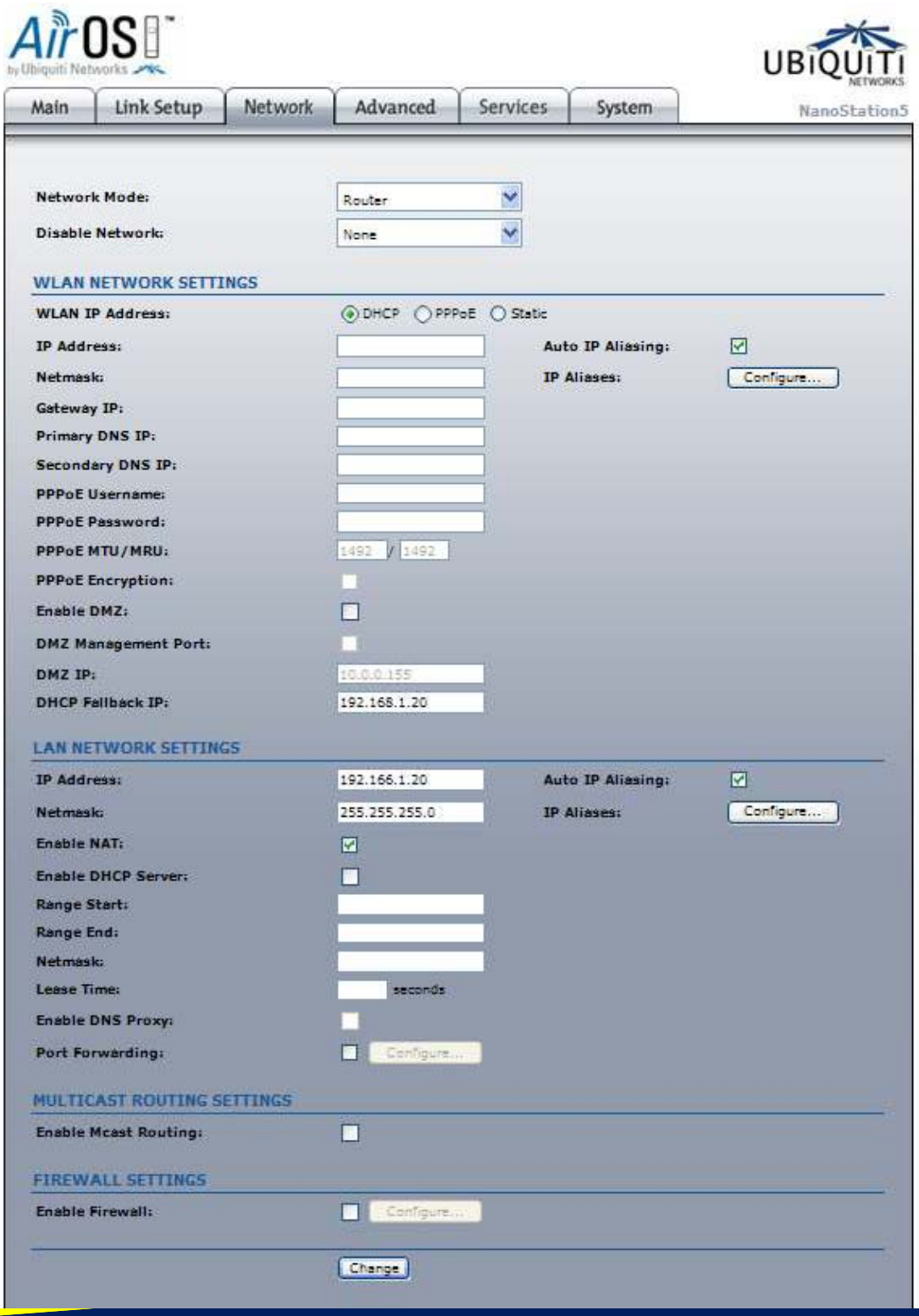
ÖVSV – LV1

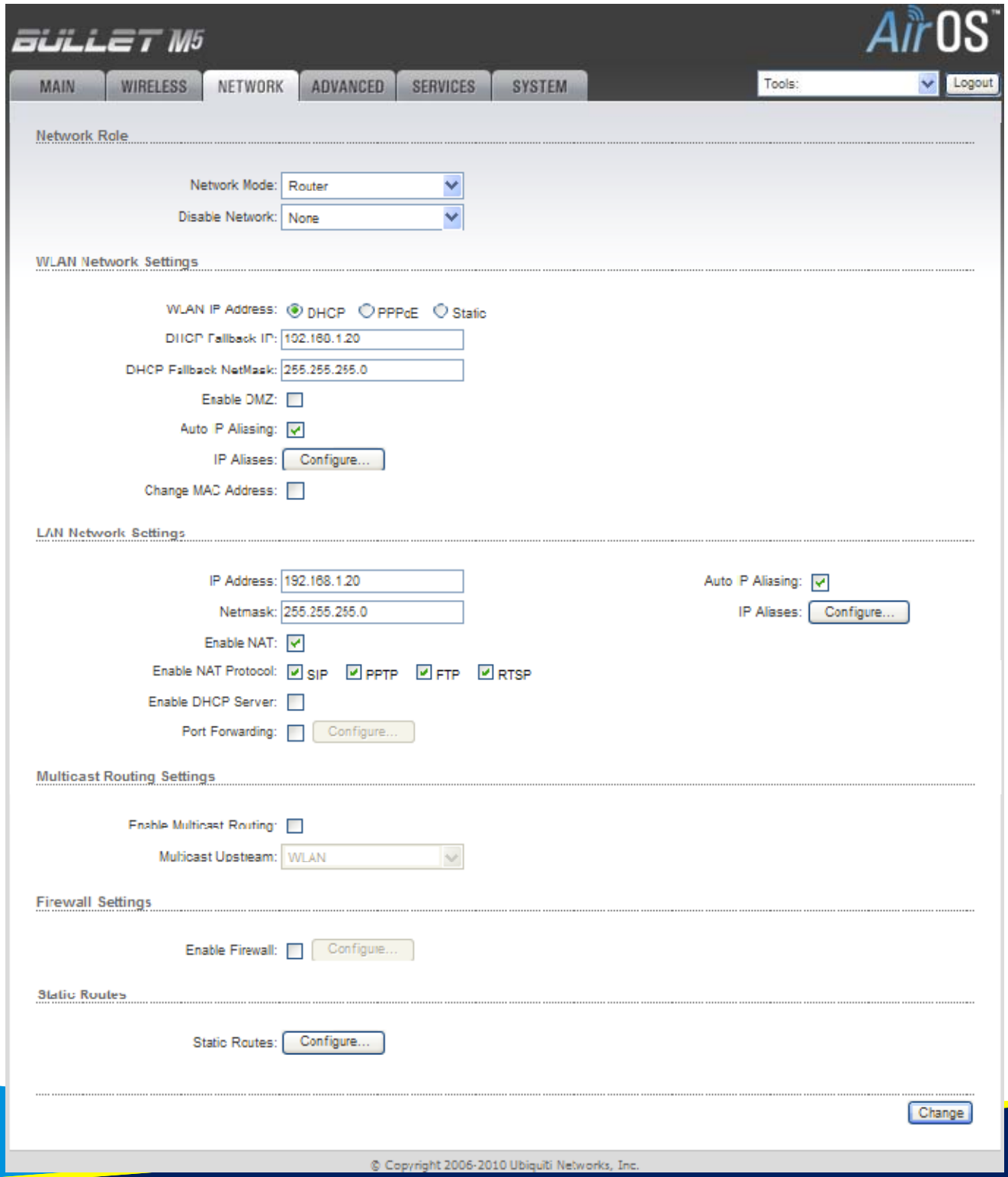

BULLET M5
AirOS
MAIN
WIRELESS
NETWORK
ADVANCED
SERVICES
SYSTEM
Tools:
Logout
AirMax Settings
Enable AirMax:
No ACK Mode for PtP:
Advanced Wireless Settings
RTS Threshold: 2346 Off
Fragmentation Threshold: 2346 Off
Distance: 15.2 miles (24.5 km)
ACK Timeout: 248 Auto Adjust
Aggregation: Enable
32 Frames 50000 Bytes
Multicast Data: Allow All
Enable Extra Reporting:
Enable DFS:
Enable Client Isolation:
Advanced Ethernet Settings
Enable Autonegotiation:
Link Speed, Mbps: 100
Enable Full Duplex:
Signal LED Thresholds
LED1 LED2 LED3 LED4
Thresholds, dBm: 90 88 84 80
Traffic Shaping
Enable Traffic Shaping:
Change

ÖVSV – LV1

Network Einstellungen

- WLAN seitig IP auf DHCP stellen
- LAN seitig IP nach Bedarf einrichten


AirOS
by Ubiquiti Networks
UBiQUiTi NETWORKS
NanoStation5
Main
Link Setup
Network
Advanced
Services
System
Network Mode:
Router
Disable Network:
None
WLAN NETWORK SETTINGS
WLAN IP Address:
DHCP
PPPoE
Static
IP Address:
Auto IP Aliasing:
Netmask:
IP Aliases:
Configure...
Gateway IP:
Primary DNS IP:
Secondary DNS IP:
PPPoE Username:
PPPoE Password:
PPPoE MTU/MRU:
1492
1492
PPPoE Encryption:
Enable DMZ:
DMZ Management Port:
DMZ IP:
10.0.0.155
DHCP Fallback IP:
192.168.1.20
LAN NETWORK SETTINGS
IP Address:
192.166.1.20
Auto IP Aliasing:
Netmask:
255.255.255.0
IP Aliases:
Configure...
Enable NAT:
Enable DHCP Server:
Range Start:
Range End:
Netmask:
Lease Time:
seconds
Enable DNS Proxy:
Port Forwarding:
Configure...
MULTICAST ROUTING SETTINGS
Enable Mcast Routing:
FIREWALL SETTINGS
Enable Firewall:
Configure...
Change


BULLET M5
AirOS
MAIN
WIRELESS
NETWORK
ADVANCED
SERVICES
SYSTEM
Tools:
Logout
Network Role
Network Mode: Router
Disable Network: None
WLAN Network Settings
WLAN IP Address: DHCP PPPoE Static
DHCP Fallback IP: 192.168.1.20
DHCP Fallback NetMask: 255.255.255.0
Enable DMZ:
Auto IP Aliasing:
IP Aliases: Configure...
Change MAC Address:
LAN Network Settings
IP Address: 192.168.1.20
Netmask: 255.255.255.0
Enable NAT:
Enable NAT Protocol: SIP PPTP FTP RTSP
Enable DHCP Server:
Port Forwarding: Configure...
Auto IP Aliasing:
IP Aliases: Configure...
Multicast Routing Settings
Enable Multicast Routing:
Multicast Upstream: WLAN
Firewall Settings
Enable Firewall: Configure...
Static Routes
Static Routes: Configure...
Change
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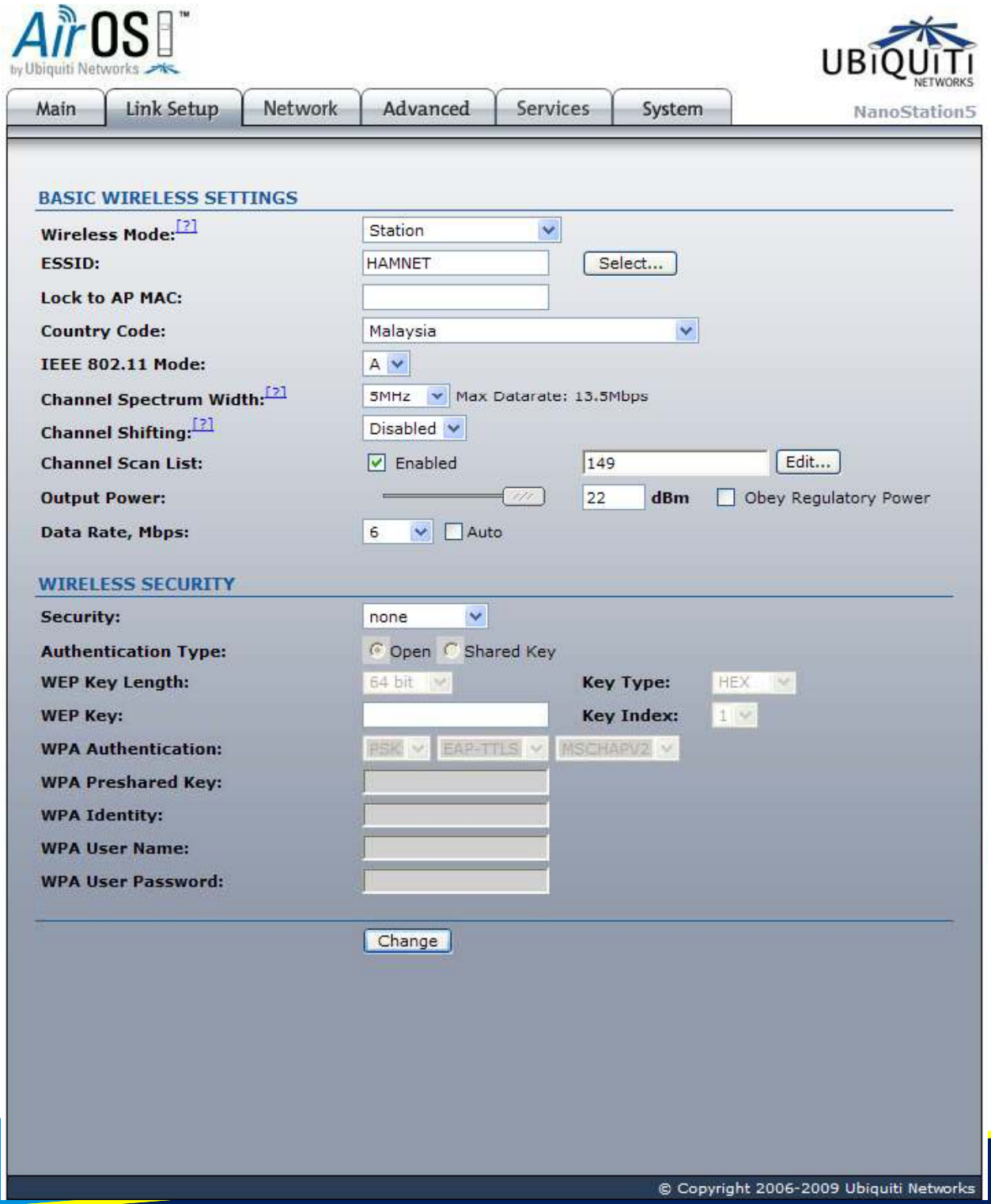
ÖVSV – LV1

Link Setup / Wireless Einstellungen

- ESSID: HAMNET
- Bandbreite: 5Mhz
- Land: Malaysia


AirOS by Ubiquiti Networks
UBIQUITI NETWORKS
NanoStation5
Main
Link Setup
Network
Advanced
Services
System
BASIC WIRELESS SETTINGS
Wireless Mode: [?]
Station
ESSID:
HAMNET
Select...
Lock to AP MAC:
Country Code:
Malaysia
IEEE 802.11 Mode:
A
Channel Spectrum Width: [?]
5MHz
Max Datarate: 13.5Mbps
Channel Shifting: [?]
Disabled
Channel Scan List:
Enabled
149
Edit...
Output Power:
22
dBm
Obey Regulatory Power
Data Rate, Mbps:
6
Auto
WIRELESS SECURITY
Security:
none
Authentication Type:
Open
Shared Key
WEP Key Length:
64 bit
Key Type:
HEX
WEP Key:
Key Index:
1
WPA Authentication:
PSK
EAP-TTLS
MSCHAPV2
WPA Preshared Key:
WPA Identity:
WPA User Name:
WPA User Password:
Change
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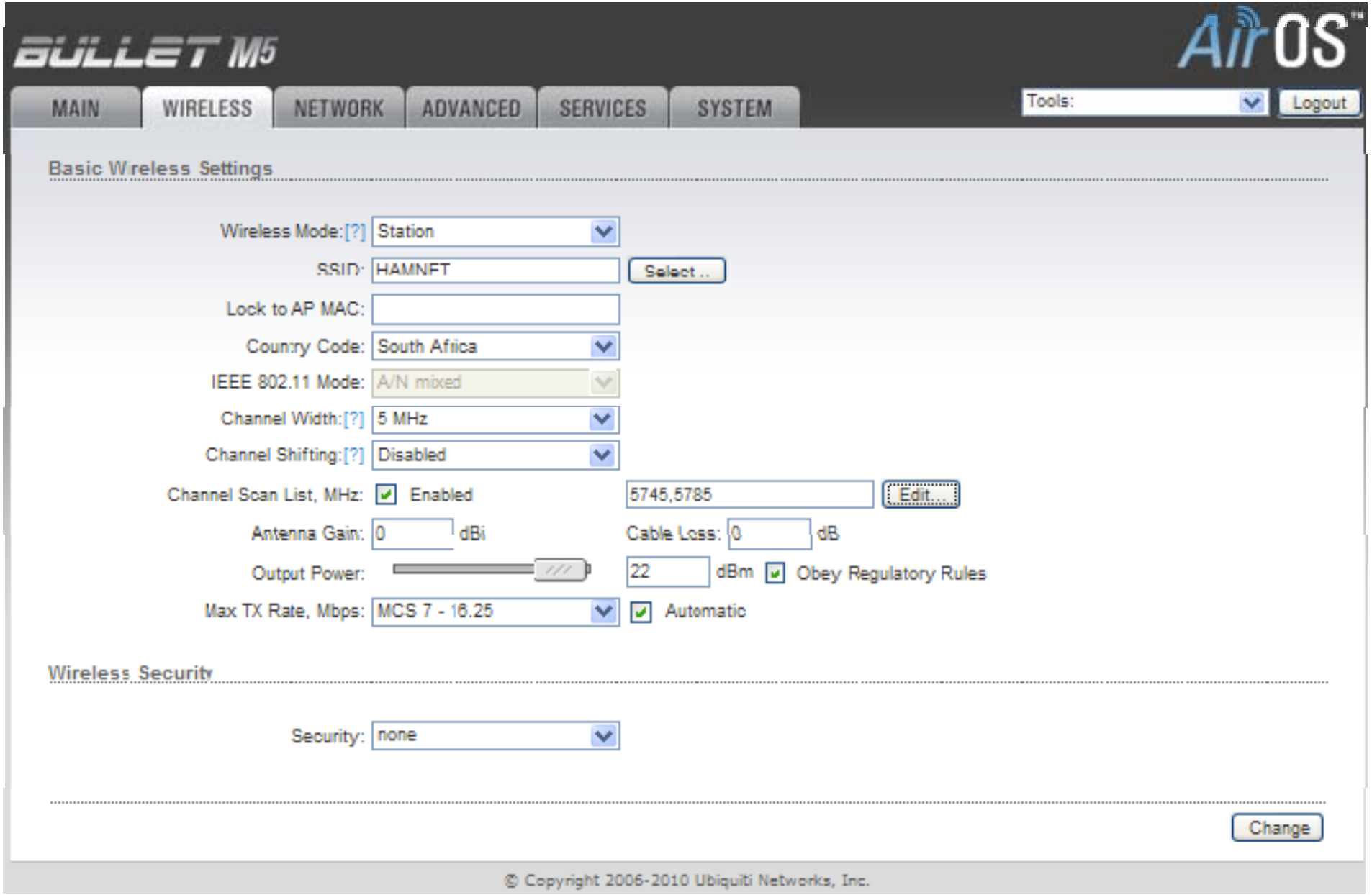
BULLET M5
AirOS
MAIN
WIRELESS
NETWORK
ADVANCED
SERVICES
SYSTEM
Tools:
Logout
Basic Wireless Settings
Wireless Mode:[?] Station
SSID: HAMNET
Select ..
Lock to AP MAC:
Country Code: South Africa
IEEE 802.11 Mode: A/N mixed
Channel Width:[?] 5 MHz
Channel Shifting:[?] Disabled
Channel Scan List, MHz: Enabled
5745,5785
Edit...
Antenna Gain: 0 dBi
Cable Loss: 0 dB
Output Power:
22 dBm
Obey Regulatory Rules
Max TX Rate, Mbps: MCS 7 - 16.25
Automatic
Wireless Security
Security: none
Change
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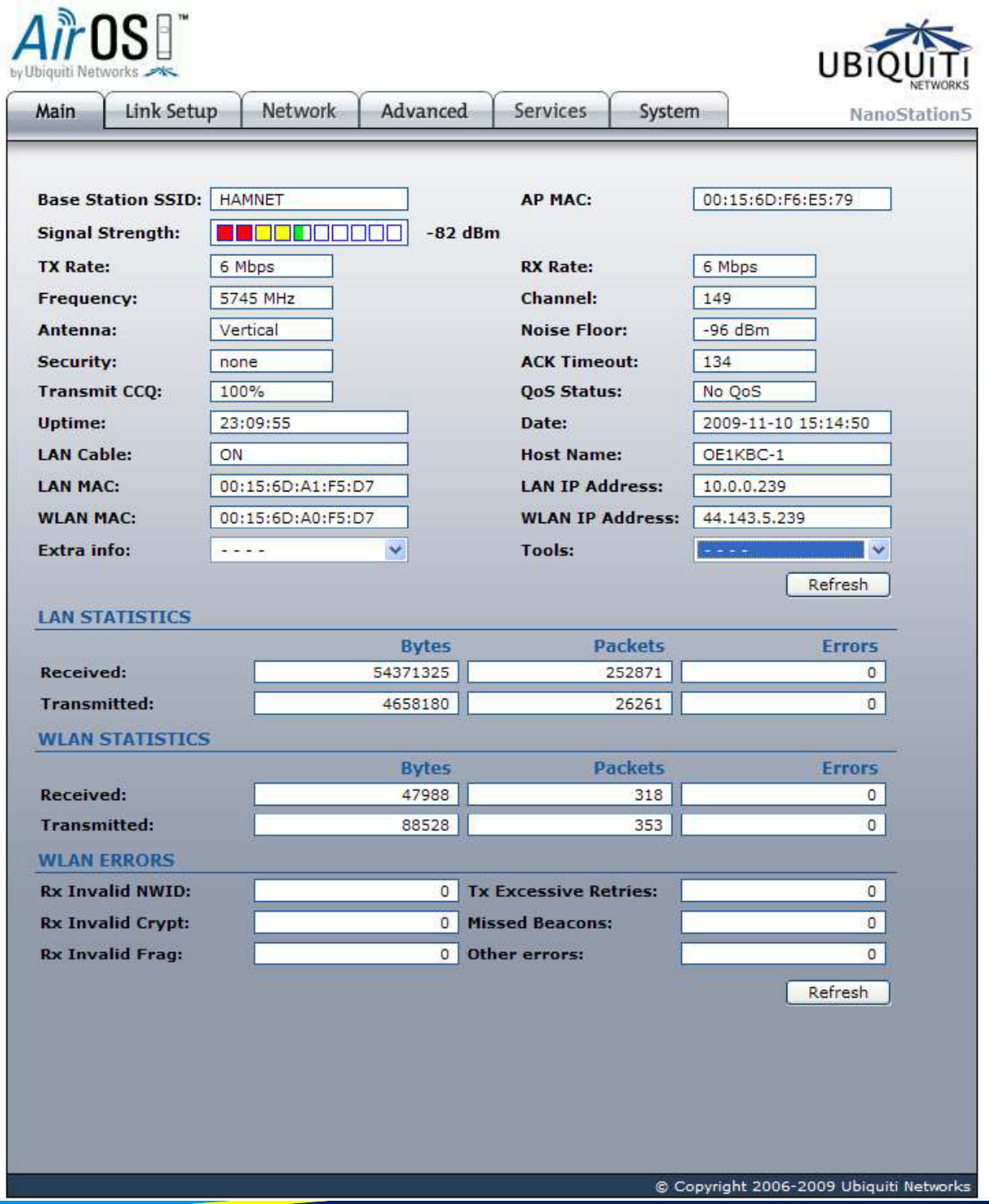
Main

- Statusübersicht


AirOS by Ubiquiti Networks
UBIQUITI NETWORKS
NanoStation5
Main
Link Setup
Network
Advanced
Services
System
Base Station SSID: HAMNET
AP MAC: 00:15:6D:F6:E5:79
Signal Strength: -82 dBm
TX Rate: 6 Mbps
RX Rate: 6 Mbps
Frequency: 5745 MHz
Channel: 149
Antenna: Vertical
Noise Floor: -96 dBm
Security: none
ACK Timeout: 134
Transmit CCQ: 100%
QoS Status: No QoS
Uptime: 23:09:55
Date: 2009-11-10 15:14:50
LAN Cable: ON
Host Name: OE1KBC-1
LAN MAC: 00:15:6D:A1:F5:D7
LAN IP Address: 10.0.0.239
WLAN MAC: 00:15:6D:A0:F5:D7
WLAN IP Address: 44.143.5.239
Extra info: - - - -
Tools: - - - -
Refresh
LAN STATISTICS
Bytes Packets Errors
Received: 54371325 252871 0
Transmitted: 4658180 26261 0
WLAN STATISTICS
Bytes Packets Errors
Received: 47988 318 0
Transmitted: 88528 353 0
WLAN ERRORS
Rx Invalid NWID: 0
Tx Excessive Retries: 0
Rx Invalid Crypt: 0
Missed Beacons: 0
Rx Invalid Frag: 0
Other errors: 0
Refresh
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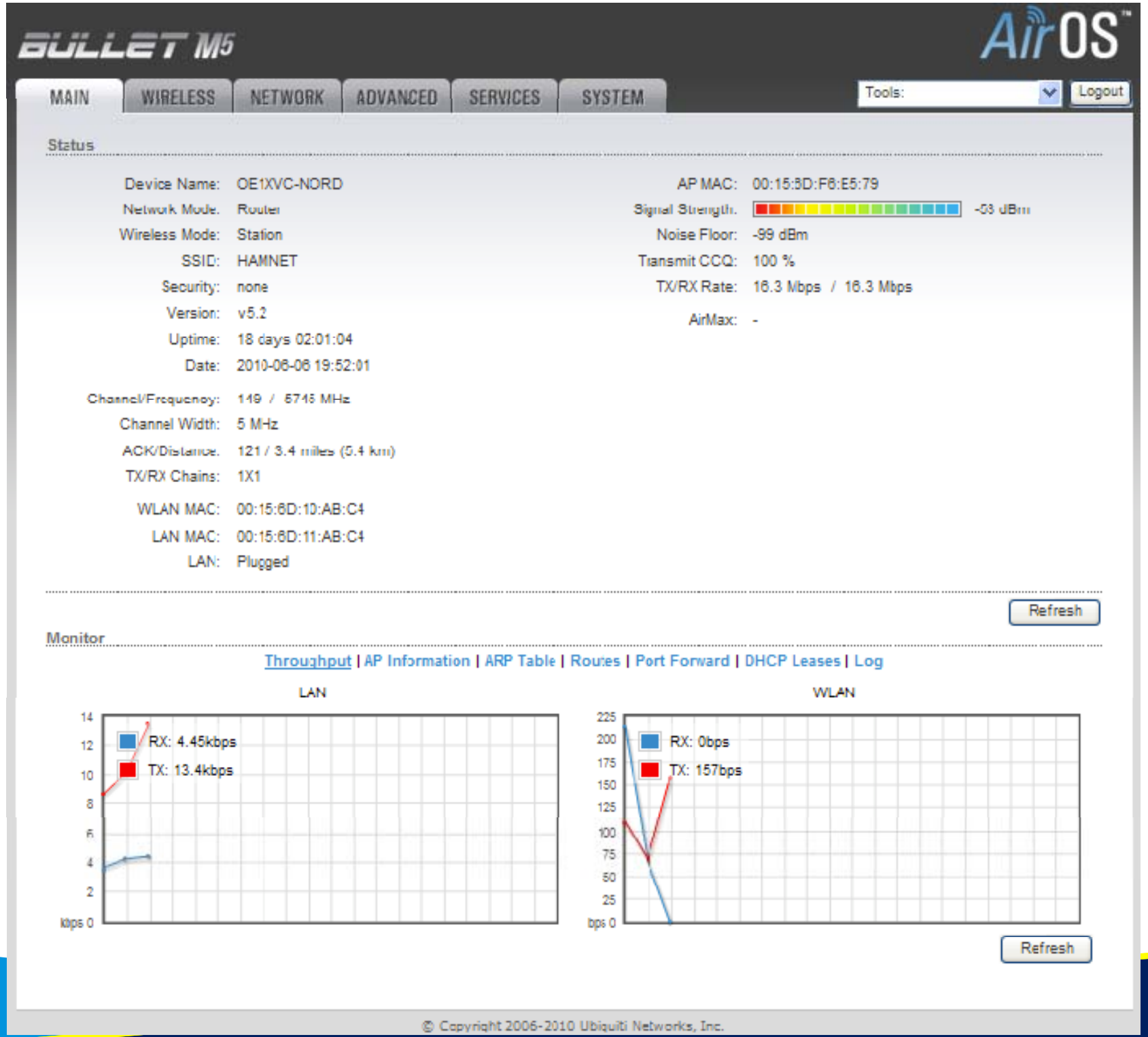
BULLET M5
AirOS
MAIN
WIRELESS
NETWORK
ADVANCED
SERVICES
SYSTEM
Tools:
Logout
Status
Device Name: OE1XVC-NORD
Network Mode: Router
Wireless Mode: Station
SSID: HAMNET
Security: none
Version: v5.2
Uptime: 18 days 02:01:04
Date: 2010-06-06 19:52:01
Channel/Frequency: 149 / 5745 MHz
Channel Width: 5 MHz
ACK/Distance: 121 / 3.4 miles (5.4 km)
TX/RX Chains: 1X1
WLAN MAC: 00:15:6D:10:AB:C4
LAN MAC: 00:15:6D:11:AB:C4
LAN: Plugged
AP MAC: 00:15:6D:F6:E5:79
Signal Strength: -63 dBm
Noise Floor: -99 dBm
Transmit CCQ: 100 %
TX/RX Rate: 16.3 Mbps / 16.3 Mbps
AirMax: -
Refresh
Monitor
Throughput | AP Information | ARP Table | Routes | Port Forward | DHCP Leases | Log
LAN
RX: 4.45kbps
TX: 13.4kbps
kbps
WLAN
RX: 0bps
TX: 157bps
bps
Refresh
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Infos

- wiki.oevsv.at → Kategorie Digitaler Backbone
- web.oe1.ampr.at