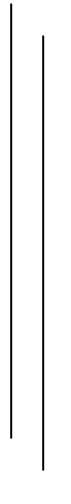




Report Installation Project Upgrade Device at Indonesia Pratama Senyur



Swos ID : #35413
Date : 05-13 Oktober 2016
Engineer Pelaksana : Didik Kristiawan & Johan Mesak



1. Data Customer

Nama : Indonesia Pratama site Senyur & KM.6
 Alamat : Senyur
 Koordinat : -
 PIC : Yulius HDT / Ferry Layuk
 No Telp : 08525141821 / 082291345668
 Email : yulius.triono@bayan.com.sg / ferry@bayan.com.sg

2. Work Description

1. Dismantle equipment outdoor at Lighting Tower Senyur
2. Installation device outdoor at Tower Senyur (RB911+Grid 5,8Ghz and M5 Omni)
3. Move device indoor to rack wallmount at Shelter Tower KM.6
4. Installation/Check grounding to Box Grounding at Tower Senyur
5. Installation/Check grounding to Box Grounding at Tower KM.6
6. Installation/Check grounding to Box Grounding at Tower KM.29
7. Install/ Pointing and setting radio station M5 and RB750 at Control Panel
8. Install/Pointing and setting radio station M5 and RBHap at Control Room
9. Install/pointing and setting radio station M5 and RB433 (indoor) at workshop
10. Install/ pointing and setting radio station M5 and RB433 (indoor) at Container Medic
11. Installation/Check grounding to Box Grounding at Tower KM.73 (by Johan)
12. Installation/Check grounding to Box Grounding at Tower Gn Sari (by Johan)

3. Equipment Install

PTP Tower Senyur to Tower KM.6

Platform : Mikrotik
 Type : RB911G-5HPnD + Antenna Grid 5.8Ghz
 Serial Number : 4A4301027E87

Access Point at Tower Senyur

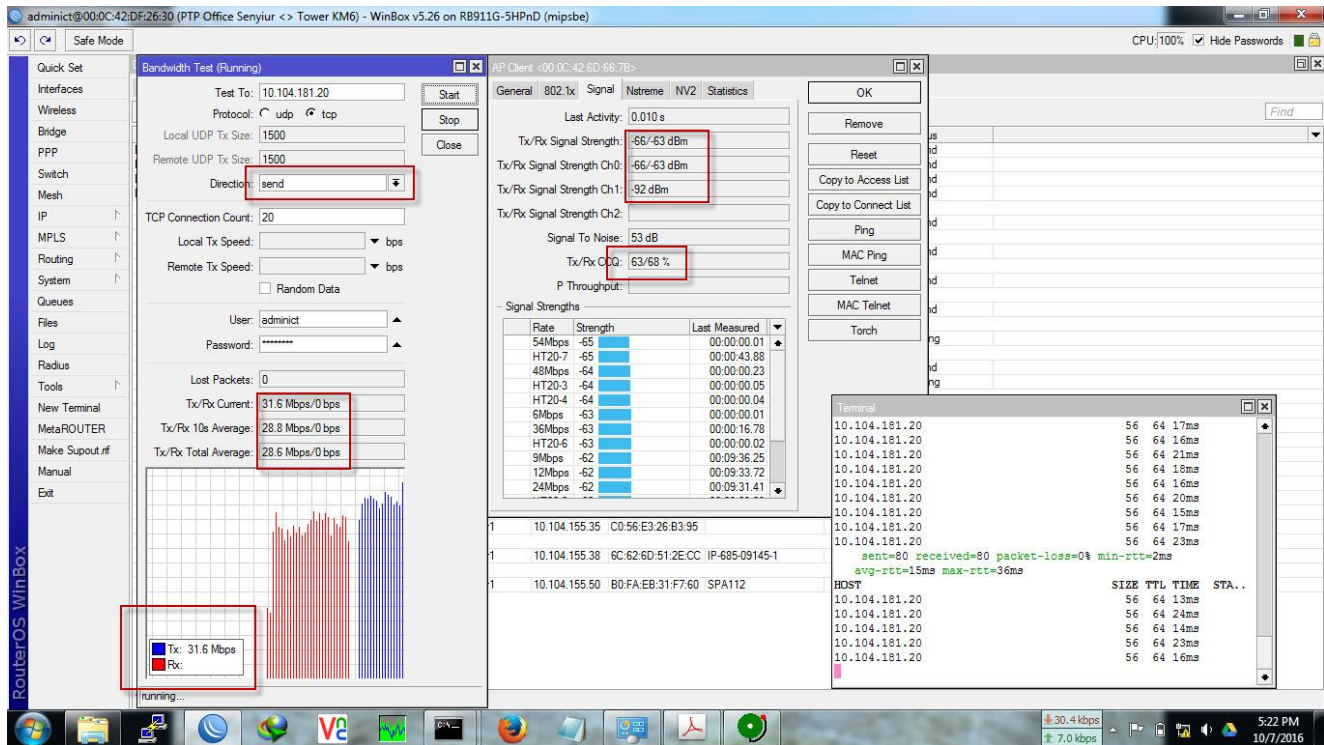
Platform : Ubiquiti
 Type : Rocket M5 + Antenna Omni 5.8Ghz
 Serial Number : -

Station at Senyur

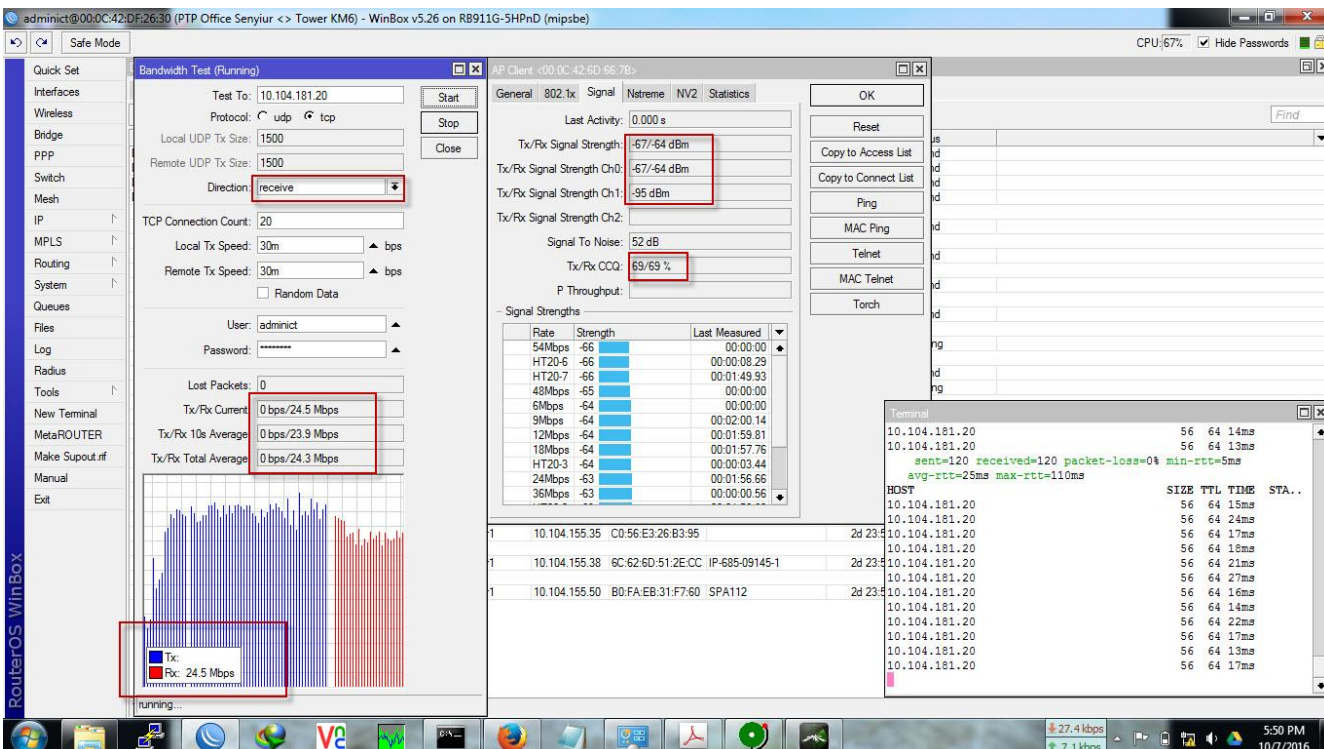
- Control Panel : Radio NanoStation M5 + POE, RB750 sn: 467704608F10
- Control Room : Radio NanoStation M5 + POE, 951Ui-2nd hAP sn: 643705AB2BE9
- Workshop : Radio NanoStation M5 + POE, RB433 sn: 6A130565104E
- Container Medic : Radio NanoStation M5 + POE, RB433 sn: 6A1305DDEC2B

4. Speed Test PTP Tower KM.6 <> Tower Senjiur

Packet Local Send Point to Point (get tx avg 28.8Mbps)



Packet Local Receive Point to Point (get rx avg 24.3Mbps)





Packet Local Both Point to Point (get tx/rx avg 13.3Mbps/12.0Mbps)

adminit@00:0C:42:DF:26:30 (PTP Office Senyur <-> Tower KM6) - WinBox v5.26 on R8911G-SHPnD (mipsbe)

Safe Mode

Quick Set

Interfaces

Wireless

Bridge

PPP

Switch

Mesh

IP

MPLS

Routing

System

Queues

Files

Log

Radius

Tools

New Terminal

MetaROUTER

Make Supout.rtf

Manual

Ext

RouterOS WinBox

Bandwidth Test (Running)

Test To: 10.104.181.20

Protocol: ☐ udp ☒ tcp

Local UDP Tx Size: 1500

Remote UDP Tx Size: 1500

Direction: both

TCP Connection Count: 20

Local Tx Speed: bps

Remote Tx Speed: bps

☐ Random Data

User: adminit

Password: *****

Lost Packets: 0

Tx/Rx Current: 13.0 Mbps/11.7 Mbps

Tx/Rx 10s Average: 13.5 Mbps/12.2 Mbps

Tx/Rx Total Average: 13.3 Mbps/12.0 Mbps

running...

AP Client <00:0C:42:6D:66:7B>

General | 802.1x | Signal | Netreame | NV2 | Statistics

Last Activity: 0.000 s

Tx/Rx Signal Strength: -67/-63 dBm

Tx/Rx Signal Strength Ch0: -67/-63 dBm

Tx/Rx Signal Strength Ch1: -92 dBm

Tx/Rx Signal Strength Ch2:

Signal To Noise: 53 dB

Tx/Rx CCQ: 60/64 %

P Throughput:

Signal Strengths

Rate	Strength	Last Measured
HT20-7	-67	00:00:21.15
48Mbps	-65	00:00:00
54Mbps	-65	00:00:00.02
HT20-6	-65	00:00:13.33
36Mbps	-64	00:00:00.01
HT20-3	-64	00:00:00.04
6Mbps	-63	00:00:00
HT20-4	-63	00:00:00.05
HT20-5	-63	00:00:01.06
9Mbps	-62	00:04:26.86
12Mbps	-62	00:04:24.33

1 10.104.155.35 C0:5E:E3:26:B3:95

1 10.104.155.38 6C:62:6D:51:2E:CC IP-685-09145-1

1 10.104.155.50 B0:FA:EB:31:F7:60 SPA112

9ms max-rtt=189ms

HOST

10.104.181.20 56 64 28ms

10.104.181.20 56 64 26ms

10.104.181.20 56 64 31ms

10.104.181.20 56 64 25ms

10.104.181.20 56 64 34ms

10.104.181.20 56 64 26ms

received=280 packet-loss=0% min-rtt=2ms avg-rtt=1

SIZE TTL TIME STATUS

26.4 kbps

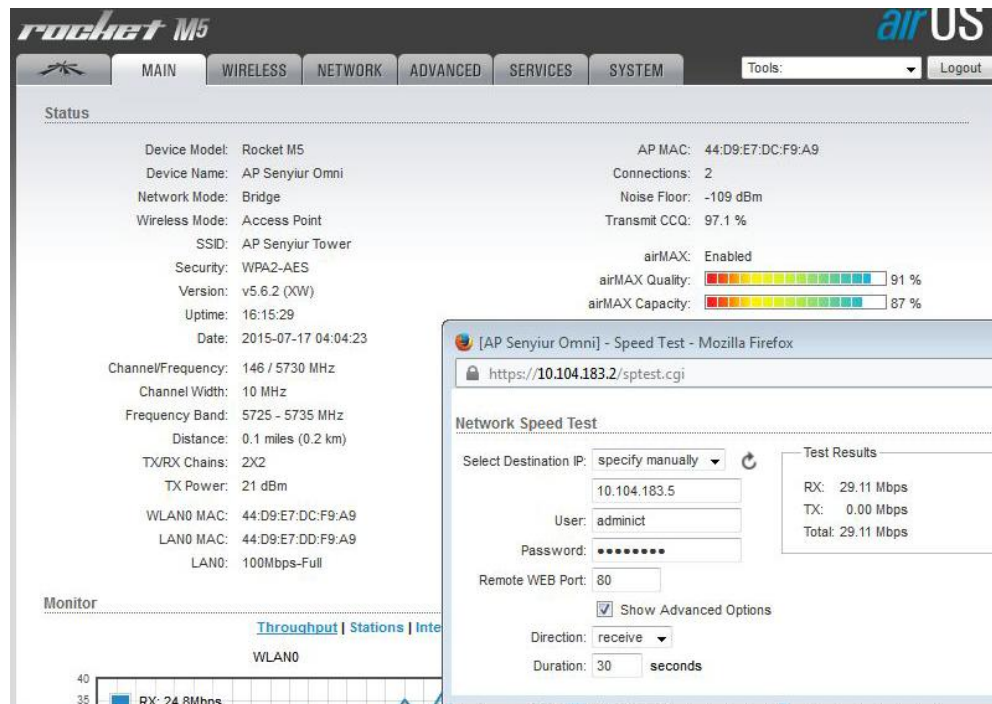
5.3 kbps

5:17 PM

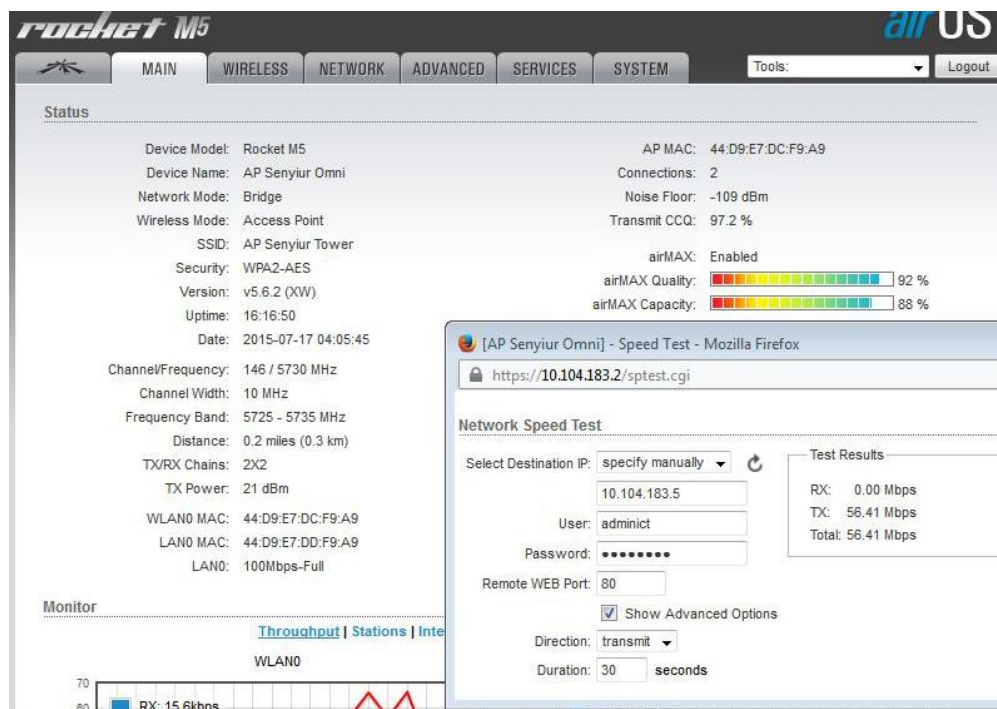
10/7/2016

5. Speedtest Access Point at Tower Senyur to Station Area Senyur

Packet Local Receive from Access Point to Station Control Panel

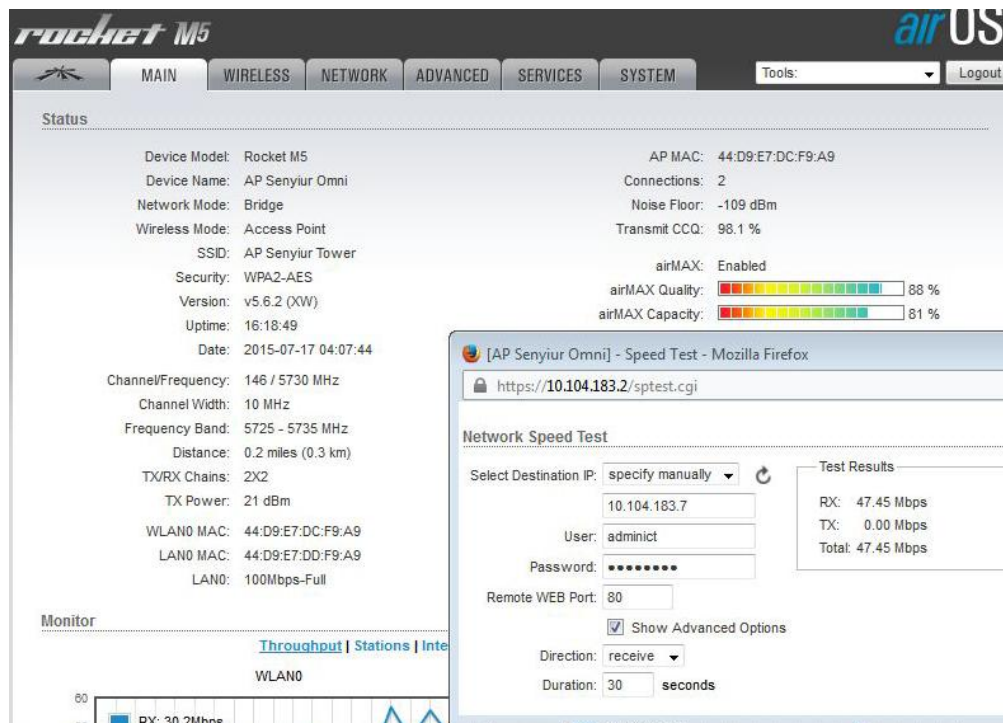


Packet Local Transmit from Access Point to Station Control Panel

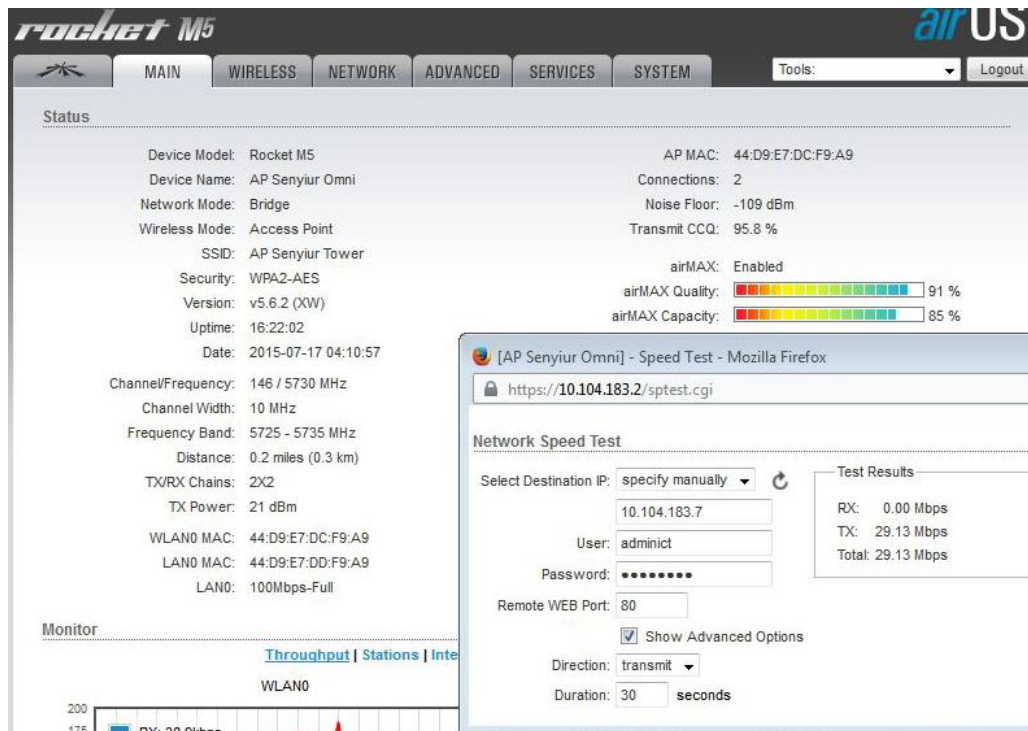




Packet Local Receive from Access Point to Station Control Room



Packet Local Transmit from Access Point to Station Control Room





Packet Local Receive from Access Point to Station Workshop

NanoStation M5 airUS

MAIN WIRELESS NETWORK ADVANCED SERVICES SYSTEM Tools: Logout

Status

Device Model: NanoStation M5	AP MAC: 44:D9:E7:DC:F9:A9
Device Name: Workshop	Signal Strength: ■ ■ ■ ■ ■ ■ ■ ■ -61 dBm
Network Mode: Bridge	Horizontal / Vertical: -64 / -63 dBm
Wireless Mode: Station	Noise Floor: -102 dBm
SSID: AP Senyur Tower	Transmit CCQ: 98.3 %
Security: WPA2-AES	TX/RX Rate: 39 Mbps / 39 Mbps
Version: v5.6.2 (XW)	airMAX: Enabled
Uptime: 00:25:04	airMAX Priority: High
Date: 2015-07-16 12:13:59	airMAX Quality: ■ ■ ■ ■ ■ ■ ■ ■ 72 %
Channel/Frequency: 146 / 5730 MHz	airMAX Capacity: ■ ■ ■ ■ ■ ■ ■ ■ 50 %
Channel Width: 10 MHz	
Frequency Band: 5725 - 5735 MHz	
Distance: 0.1 miles (0.2 km)	
TX/RX Chains: 2X2	
TX Power: 27 dBm	
WLAN0 MAC: 80:2A:A8:22:3E:F0	
LAN0 MAC: 80:2A:A8:23:3E:F0	
LAN1 MAC: 82:2A:A8:23:3E:F0	
LAN0 / LAN1: 100Mbps-Full / Unplugged	

Monitor

[Throughput](#) | [AP Information](#)

WLAN0

[Workshop] - Speed Test - Mozilla Firefox

https://10.104.183.3/sptest.cgi

Select Destination IP: specify manually ↻

10.104.183.2

User: adminict

Password: ●●●●●●

Remote WEB Port: 80

☒ Show Advanced Options

Test Results

RX: 28.01 Mbps

TX: 0.00 Mbps

Total: 28.01 Mbps

Packet Local Transmit from Access Point to Station Workshop

NanoStation M5 airUS

MAIN WIRELESS NETWORK ADVANCED SERVICES SYSTEM Tools: Logout

Status

Device Model: NanoStation M5	AP MAC: 44:D9:E7:DC:F9:A9
Device Name: Workshop	Signal Strength: ■ ■ ■ ■ ■ ■ ■ ■ -62 dBm
Network Mode: Bridge	Horizontal / Vertical: -67 / -63 dBm
Wireless Mode: Station	Noise Floor: -103 dBm
SSID: AP Senyur Tower	Transmit CCQ: 98.5 %
Security: WPA2-AES	TX/RX Rate: 39 Mbps / 58.5 Mbps
Version: v5.6.2 (XW)	airMAX: Enabled
Uptime: 00:27:06	airMAX Priority: High
Date: 2015-07-16 12:16:01	airMAX Quality: ■ ■ ■ ■ ■ ■ ■ ■ 64 %
Channel/Frequency: 146 / 5730 MHz	airMAX Capacity: ■ ■ ■ ■ ■ ■ ■ ■ 50 %
Channel Width: 10 MHz	
Frequency Band: 5725 - 5735 MHz	
Distance: 0.1 miles (0.2 km)	
TX/RX Chains: 2X2	
TX Power: 27 dBm	
WLAN0 MAC: 80:2A:A8:22:3E:F0	
LAN0 MAC: 80:2A:A8:23:3E:F0	
LAN1 MAC: 82:2A:A8:23:3E:F0	
LAN0 / LAN1: 100Mbps-Full / Unplugged	

Monitor

[Throughput](#) | [AP Information](#)

WLAN0

[Workshop] - Speed Test - Mozilla Firefox

https://10.104.183.3/sptest.cgi

Select Destination IP: specify manually ↻

10.104.183.2

User: adminict

Password: ●●●●●●

Remote WEB Port: 80

☒ Show Advanced Options

Test Results

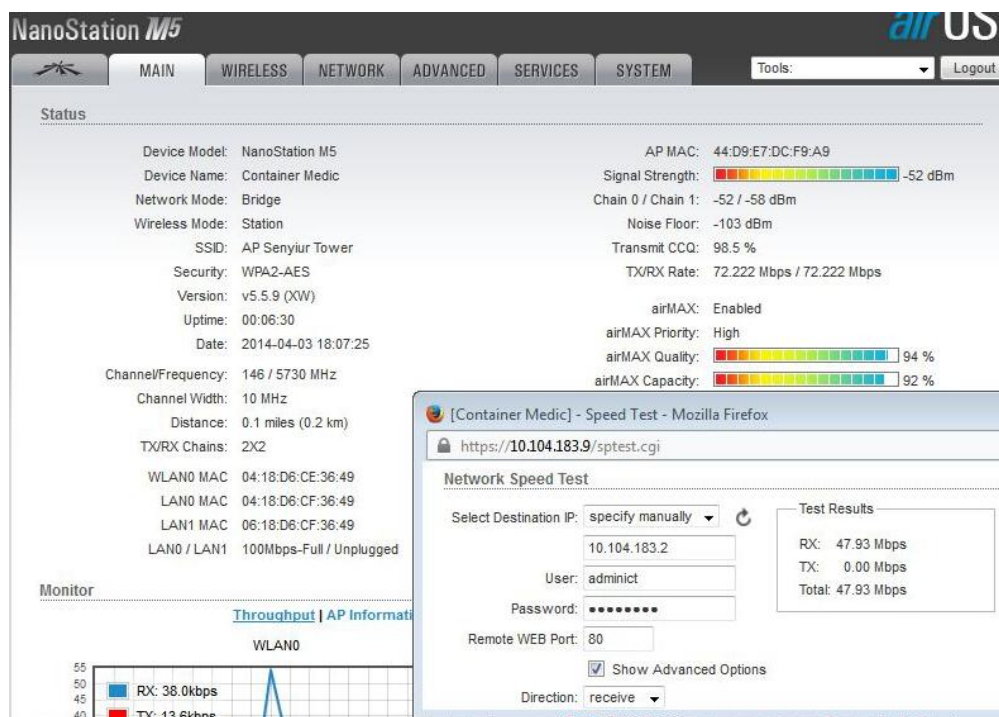
RX: 0.00 Mbps

TX: 22.74 Mbps

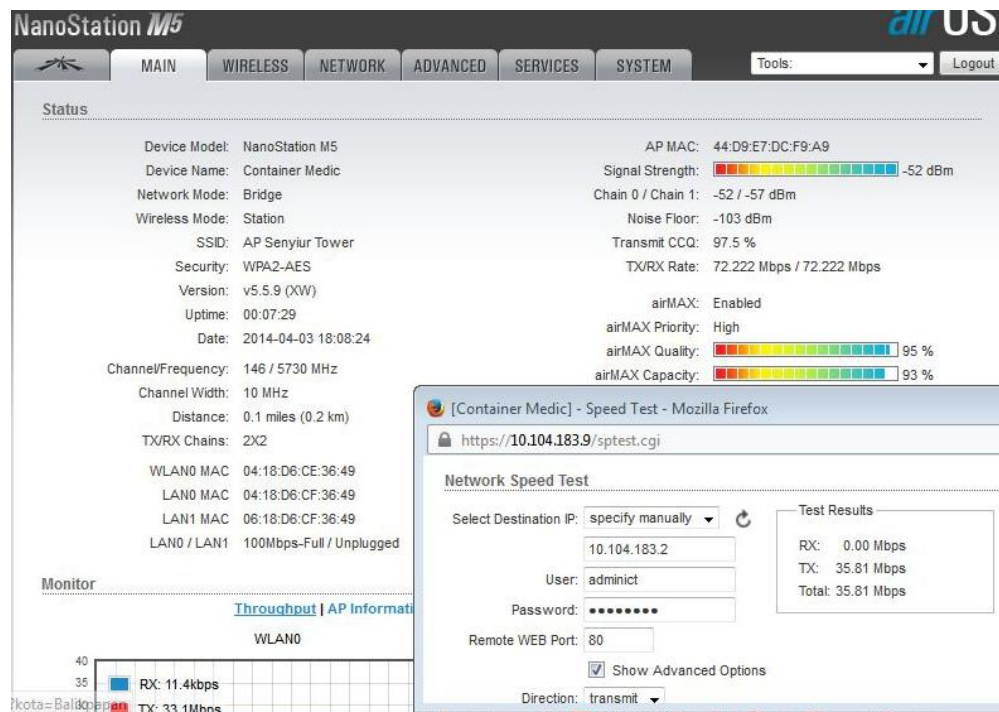
Total: 22.74 Mbps



Packet Local Receive from Access Point to Station Container Medic



Packet Local Transmit from Access Point to Station Container Medic





6. Configuration Radio Access Point M5 + Omni at Tower Senjiur

rocket M5 airOS

MAIN WIRELESS NETWORK ADVANCED SERVICES SYSTEM Tools: Logout

Basic Wireless Settings

Wireless Mode: Access Point

WDS (Transparent Bridge Mode): ☐ Enable

SSID: AP Senjiur Tower ☐ Hide SSID

Country Code: United States

IEEE 802.11 Mode: A/N mixed

Channel Width: 10 MHz

Frequency: 5730

Extension Channel: None

Frequency List, MHz: ☐ Enable

Calculate EIRP Limit: ☒ Enable

Antenna Gain: 0 dBi Cable Loss: 0 dB

Output Power: 21 dBm

Data Rate Module: Default

Max TX Rate, Mbps: MCS 15 - 65/72.2 ☒ Auto

Wireless Security

Security: WPA2-AES

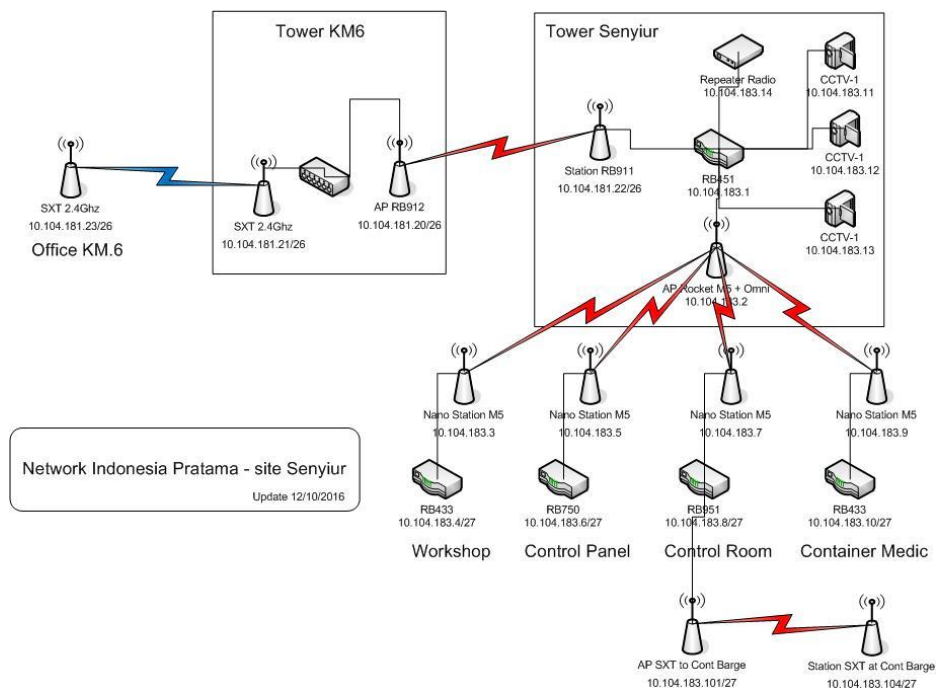
WPA Authentication: PSK

WPA Preshared Key: Berhasil246 ☒ Show

MAC ACL: ☐ Enable

User Login : admin
Password Login : ictb4y4n

7. Network Topology



8. Ping Latency

Ping PTP from Tower KM.6 <> Tower Senyur

```

10.104.181.22      1400  64  6ms
10.104.181.22      1400  64  10ms
10.104.181.22      1400  64  13ms
10.104.181.22      1400  64  18ms
10.104.181.22      1400  64  28ms
10.104.181.22      1400  64  19ms
10.104.181.22      1400  64  5ms
10.104.181.22      1400  64  10ms
10.104.181.22      1400  64  4ms
10.104.181.22      1400  64  2ms
10.104.181.22      1400  64  10ms
10.104.181.22      1400  64  13ms
10.104.181.22      1400  64  11ms
10.104.181.22      1400  64  5ms
10.104.181.22      1400  64  10ms
10.104.181.22      1400  64  5ms
  sent=100 received=100 packet-loss=0% min-rtt=2ms avg-rtt=12ms max-rtt=39ms
HOST                SIZE TTL TIME  STATUS
  
```

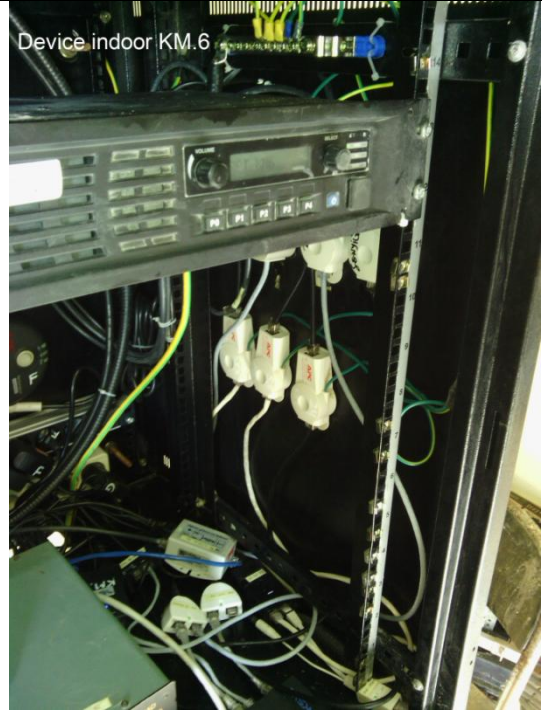
9. Move Device Shelter KM.6



Penempatan UPS Shelter KM.6



Device indoor KM.6



10. Dokumentasi

Dismantle device at Tower Lamp Senjiur



PTP Tower Senjiur <-> Tower KM.6



Device indoor shelter Senjiur



Jalur Kabel Shelter Senjiur



Radio Control Room



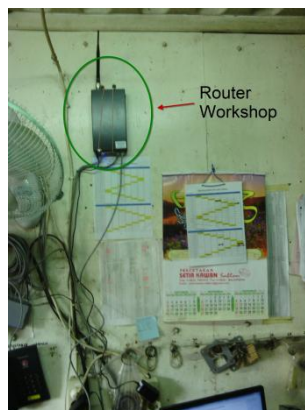
Radio Container Medic



Radio Workshop



Router Container Medic



Router Workshop



Box Grounding BusBar Senyur



Busbar grounding Tower Senyur



Box grounding busbar KM.6



Bak control grounding KM.6



Busbar grounding Tower KM.6



Box busbar grounding KM.29



Busbar grounding Tower KM.29



Grounding device indoor KM.29



Box busbar grounding KM.73



Busbar grounding tower KM.73



Bak control grounding KM.73



Busbar grounding Tower Gn Sari



Bak control grounding Tower Gn Sari

Terimakasih ...