

Adjusted WIFI tx power

Gordon

The satellite internet service for the folks at the AABC center has been poor recently, and the drop in service seemed to be coincident with the start of our operations. At Paul Johnson's PC, DNS was not working, and I couldn't ping their DNS servers, or the google DNS servers: 8.8.8.8

I tried turning off the ethernet wifi at the Lidar, since that was closest to their satellite dish. They rebooted their satellite modem, but there was no improvement.

They then had an ISP tech come out to check their dish alignment, and replace some components. That improved things but it still appeared to be worse than before SOAS.

So we tried adjusting the TX power on the AP24 at the base trailer. It is pointing basically straight at the AABC buildings.

The previous setting was

```
interface wireless print
0    ... frequency-mode=manual-txpower antenna-gain=0 tx-power=15 tx-power-mode=card-rates
```

From the *AP24 Router OS* manual, available at <http://wiki.eol.ucar.edu/sew/ISFS/WIFI>

- frequency-mode (regulatory-domain | manual-tx-power | superchannel; default: superchannel) - defines which frequency channels to allow
 - regulatory-domain - channels in configured country only are allowed, and transmit power is limited to what is allowed in that channel in configured country minus configured antenna-gain. Also note that in this mode card will never be configured to higher power than allowed by the respective regulatory domain
 - manual-tx-power - channels in configured country only are allowed, but transmit power is taken from tx-power setting
 - superchannel - only possible with superchannel license. In this mode all hardware supported channels are allowed
- tx-power (integer: -30..30; default: 17) - manually sets the transmit power of the card (in dBm), if tx-power-mode is set to manual or all-rates-fixed (see tx-power-mode description below)
 - default - default value of the card
- tx-power-mode (all-rates-fixed | card-rates | default | manual-table; default: default) - choose the transmit power mode for the card:
 - all-rates-fixed - use one transmit power value for all rates, as configured in tx-power
 - card-rates - use card default rates
 - default - use the default tx-power
 - manual-table - use the transmit powers as defined in /interface wireless manual-tx-power-table

From the above settings I don't know what transmit power would be used, 15 dBm, or the default for the card.

Anyway, on Jun 11 I changed the tx-power to 13 and Paul saw an improvement.

Later I changed it to:

```
frequency-mode=regulatory-domain
tx-power-mode=default
```

According to Scarlet and Paul in the AABC office things are working fine. We'll leave it at that until we hear otherwise.