Quectel APN Switching Guide: Airtel & Jio

A technical guide for switching the APN (Access Point Name) on Quectel modules between the Jio and Airtel networks using AT commands.

🚀 Switching from Airtel to Jio

Switching to Jio requires specific configuration because Jio operates on a 4G/5G-only network. The following steps will guide you through the process.

1. Check Network Scan Mode

First, check the module's current network scanning configuration.

```
AT+QCFG="nwscanmode"
```

- `0` - Automatic mode (searches 2G/3G/4G/5G). This is not ideal for Jio.

2. Set Network Scan Mode to LTE-only

Force the module to scan for LTE (4G) networks exclusively. This is crucial for reliable registration on the Jio network.

```
AT+QCFG="nwscanmode",3
```

- `3` - Corresponds to LTE-only mode.

3. Deactivate and Delete Existing PDP Context

Before setting a new APN, you must deactivate any active session and then delete the old configuration.

```
# Deactivate any active PDP contexts (e.g., context 1)
AT+CGACT=0,1

# Delete the configuration for PDP context 1
AT+CGDCONT=1
```

4. Configure the Jio APN

Define the new PDP context with Jio's APN details. Note the use of `IPV6` as the PDP type, which is standard for Jio.

```
AT+CGDCONT=1,"IPV6","jionet"
```

- `1` : The context identifier (CID).
- `"IPV6"` : The Packet Data Protocol (PDP) type.
- `"jionet"` : The Access Point Name for Jio.

5. Save Configuration and Reboot

Save the settings to the module's non-volatile memory to make them persistent across reboots. Then, perform a power cycle.

```
# Save the configuration
AT&W
```

> ***Note:*** *A full power-down is recommended. Wait for ~10 seconds before powering the module back on.*

6. Verify Network Registration

After the module reboots, verify that it has successfully registered on the network.

```
# Check SIM card status (should return +CPIN: READY)
AT+CPIN?

# Check signal quality (higher value is better)
AT+CSQ

# Check network registration status
AT+CREG?
AT+CGREG?
```

- Look for a status change from `0,2` (Not registered, but searching) to **`0,1`** (Registered, home network).

7. Activate the PDP Context

Once registered, activate the data session.

```
AT+QIACT=1
```

8. Confirm IP Address

Finally, confirm that the module has obtained a valid IPv6 address from the network.

```
AT+CGPADDR=1
```

🔄 Switching from Jio to Airtel

The procedure to switch back to Airtel is very similar. The main differences are the APN string and the PDP type (`IP` for IPv4). It's also good practice to revert the network scan mode to automatic for broader compatibility with Airtel's 2G/3G/4G networks.

1. Deactivate and Delete Existing PDP Context

As before, clear the old (Jio) configuration first.

```
AT+CGACT=0,1
AT+CGDCONT=1
```

2. Configure the Airtel APN

Set the PDP context for Airtel. Note the use of **`IP`** (for IPv4).

```
AT+CGDCONT=1,"IP","airtelgprs"
```

3. (Optional) Set Network Scan Mode to Automatic

For best compatibility with Airtel, you can set the scan mode back to automatic.

```
AT+QCFG="nwscanmode",0
```

4. Save, Reboot, and Verify

Follow the same procedure as before: save the configuration, reboot the module, and then verify registration and IP address acquisition.

```
# Save configuration
AT&W

# (Perform power cycle)

# Verify registration and activate context after reboot
AT+CREG?
AT+QIACT=1
AT+CGPADDR=1
```