Novatel Wireless, Inc.
T2050
UserManual

R1.0

Author	Revision	Changes	Date
Bwu	R1.0	FirstRelease	20160721

Contents

1   Overview

Novatel T2050 (Home Phone Connect) works over the Verizon 4G LTE Broadband wireless network, and uses your existing home phone number and handsets.

GET CONNECTED IN MINUTES
Just plug in, connect your phone and make calls. Connecting your phone is a snap. You can do it yourself—no professional installation required. Set up this small, sleek, portable device in the kitchen, your office, the bedroom, and even take it with you when you travel.

KEEP YOUR PHONE…LOSE THE LANDLINE
Enjoy clear local and long distance telephone service with caller ID, call forwarding, call waiting, call holding, three-way calling, TTY-TTD, and E911. Plug in your corded or cordless phone. Use your own home phone number or set up a new one.

SEE SIGNAL STRENGTH, ALERT AND MORE ON THE TOUCH-KEY NAVIGATION SCREEN
The T2050 with Voice's user friendly touch-key navigation screen puts the information you need right at your fingertips. See voice and data signal strength, number of new voice mails, Alert status, backup battery life, and more directly on the device.

MAINTAIN YOUR ABILITY TO MAKE CALLS DURING POWER OUTAGES
The T2050 with Voice's backup battery provides 3 hours talk time and 33 hours standby.

2   Features

- LTE Bands: B2,B4,B13
- GPS Support (E911 Support)
- VoLTE Compliant, HD Voice.
- 2RJ-11Phone Jacks
- 1 RJ-31 Security Ports
- 1 SMA Port for External LTE antenna
- DECT 6.0 Support
- TTY Support
- FAX Support
- Callwaiting, callforwarding, three-waycalling
- SupportforCallerID
- FOTA
- Nano SIM

3   ProductIntroduction

3.1   LED Behavior

Blink rate = 1 sec on, 1 sec off

State	LED Operation	Use Cases	Note
Normal State	Solid Blue	Default Screen	Use TTY text icon. Never show battery icon in status bar, only in Home screen. Add roaming icon to status bar, normal sequence (check)
	Solid Blue	Incoming/Outgoing call (including 911)	Phone icon should be present on the left side. 911 should be the same except the call number.
	Solid Blue	Incoming/Outgoing Fax	
	Solid Blue	Call Waiting	
	Solid Blue	Conference Call	
	Solid Blue	Software Update in progress Software Update completed	
Notification State	Blinking Blue	Voice Mail Available	
	Blinking Blue	Call Forwarding Enabled	Call forwarding icon should be activated when the user set up call forwarding from the phone connected to New Zealand. Call forwarding icon should be cleared when either the user disable up call forwarding from the phone connected to New Zealand or if there is an incoming call to New Zealand
	Blinking Blue	Battery Powered Case	Turn ON when switch to battery for 10 sec. Low battery – LED blink RED
	Blinking Blue	Missed Call Case	
Error State	Blinking Red	No Service Case	
	Blinking Red	SIM Error Case	
	Blinking Red	SIM Locked Case	
	Blinking Red	Low Battery	Low = 10% or less

3.2   Button Behavior

Power Button

State	Button Press	Notes
Device OFF	Startup	No timer, no delay, just press and release
Device ON	Shutdown	No timer, no delay, just press and release

Menu Button

State	Button Press	Notes
Device OFF	No effect	

Device ON Screen ON	Short Press – Change sub-screen Long Press – Jump to Home screen	Long press = 3 seconds
Device ON Screen OFF	Short Press – turn screen on Long Press – turn screen on	Home screen displayed – do not remember last sub-screen. Long press = 3 seconds

Reset Button

State	Button Press	Notes
Device OFF	No effect	
Device ON	Reset to factory defaults	Press & hold 3 secs (need pin)

3.3   Screen On/Off Behavior

- T1 = 30 seconds
- T2 = 5 seconds

Screen On/Off Behavior

Power	State	Screen On/Off	Notes
AC/Battery	Startup	On, Timeout (T1)	If user does nothing, transition to Idle state.
AC/Battery	Idle	Off	
AC/Battery	Incoming call	On, Timeout (T1)	Answered => Call in progress Ignored => Timeout from last ring.
AC/Battery	Off hook Dialing	On, Timeout (T1)	Timeout restarts with each tone/keypress, so applies if user leaves phone off hook. Keypress
AC/Battery	Call in progress	On	Incoming or outgoing call Includes call waiting, conferencing
AC/Battery	Hang up	Timeout (T1)	Timeout starts from hang up.
AC/Battery	Viewing Sub-screens	On, Timeout (T1)	Timeout starts from each HW button press. After timeout, turn screen off. When user pushes the button again, Home screen is displayed.
AC/Battery	Missed call state		Timeout from last ring (incoming call event) No special behavior for missed call ongoing state.
AC/Battery	Call Forwarding		No special behavior
AC/Battery	SW Update download in progress		No special behavior
AC/Battery	SW Update ready to install		No special behavior
AC/Battery	SW Update in progress (installation)	On	After install, restart. Normal T1 timeout.
AC/Battery	SW Update complete message	Off	Do not go back to Home screen – keep SW message until user presses button.
Low Battery	Startup	On, Timeout (T2)	If user does nothing, transition to Idle state
Low Battery	Idle	Off	
Low Battery	Incoming call	On, Timeout (T2)	Timeout starts when user answers OR last ring. **NOTE:** Screen will not show caller information.
Low Battery	Off hook Dialing	On, Timeout (T2)	Timeout restarts with each tone/keypress. **NOTE:** Screen will not show number dialed.
Low Battery	Call in progress	Off	Timeout from last ring (incoming call) or dial action (outgoing call).
Low Battery	Call in progress, incoming call (call waiting)	On, Timeout (T2)	As for normal incoming call.
Low Battery	Call in progress, outgoing call (conferencing)	On, Timeout (T2)	As for normal outgoing call.
Low Battery	Hang up	On, Timeout (T2)	Timeout starts from hang up. (If screen is already ON and time running, restart time upon hang up)

Low Battery	Viewing Sub-screens	On, Timeout (T2)	Timeout starts from each HW button press. After timeout, turn screen off. When user pushes the button again, Home screen is displayed.
Low Battery	Missed call state		No special behavior during this state. Incoming call will have turned screen – see Incoming call.
Low Battery	Call Forwarding		No special behavior during this state.
Low Battery	SW Update download in progress		n/a Will not download
Low Battery	SW Update ready to install		No special behavior
Low Battery	SW Update in progress (installation)		n/a Will not install

4   BasicOperation

4.1   On-offdevice

Thepowerswitchislocatedinthebackofthedevice
1.   Switchthepowerkeytothe"ON"position, youcanopenthedevice.
2.   Switchthepowerkeytothe"OFF"position, youcanclosethedevice.

4.2   Makecalls

1.   Pow003eronthedevice.
2.   Pickupthehandset.
3.   Todialthenumberuntilyouhearthetone.
4.   Waitabout3S, thedevicewillcallout.
5.   Whenthecallisconnected, youcantalkwitheachother.
6.   Putdownthehandsetorpresstheendkey, thephonewillbehungup.

4.3   Answercalls

Thephoneofconnectingto T2000willringwhenthere'sanincomingcall.
1.   Pickupthehandset, thecallisconnecting.
2.   Putdownthehandsetorpresstheendkey, thephonewillbehungup.

Federal Communications Commission (FCC) Statement

15.21
You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1) this device may not cause harmful interference and
2) this device must accept any interference received, including interference that may cause
undesired operation of the device.

FCC RF Radiation Exposure Statement:
1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Allowed maximum gain(dBi), including antenna cable loss

Frequency Band	Antenna gain (dBi, including cable loss)
740 MHz ~ 800 MHz WWAN	2.53 dBi
1710 MHz ~ 1900 MHz WWAN	4.12 dBi
1910 MHz ~ 2200 MHz WWAN	3.88 dBi

End user product of external antennas available from vendors specified by the equipment supplier. Pleasecontact the equipment supplier for end user antenna and connector recommendations.