

LINKPlanner Release Note for Version V4.2.1

December 2014

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Introduction

This document provides information for the Cambium Networks LINKPlanner version V4.2.1.

The LINKPlanner is an application that runs on Windows or Macintosh. It performs the calculations from the ITU recommendations ITU-R P.526-10 and ITU-R P.530-12 (or Vigants-Barnett) to predict NLoS and LoS paths for anywhere in the world. Path profile data can be obtained in a number of different ways depending upon global location. Trees and buildings (obstructions) will modify this profile, and often the path must be surveyed to establish the correct estimation.

The LINKPlanner provides results specific to the ePMP, PTP250, PTP300, PTP400, PTP450, PTP500, PTP600, PTP650, PTP800, PTP810 and PTP820 family of wireless bridges and PMP 450 and ePMP family of PMP network devices, giving the data rates and reliability that can be expected given the specific design features of these products.

New or Changed in version 4.2.1

- Added support for ePMP 1000 in PTP mode
- Added high level Mean Predicted Throughput for ePMP 1000 AP
- Updated PTP 820 Part Descriptions
- Updated Optional Extras for PTP 450 and PTP 820
- Removed EIRP limit from PTP 450 Canada, FCC and Other-FCC at 5.8 GHz
 - For existing projects please check that the correct country option is selected.

Bug Fixes in version 4.2.1

- Fixed issue when creating SM custom antenna
- Fixed PTP 800 and PTP 810 Installation Report issues
- Prevent site coordinates from being changed on sites that have PMP links

New or Changed in version 4.2.0

- Added support for PTP 450
- Added high level Mean Predicted Throughput for PMP 450 AP
- Added Global SM Height value to the Project Properties
- Enabled option to select paper size when exporting a map as a PDF

Bug Fixes in version 4.2.0

- Changed PTP 820S Upper 6 GHz to Preliminary
- Modified PTP 820 80 MHz capacity key requirements and removed 1024 QAM option for 2+0 links with 80 MHz bandwidth
- Removed modulation modes above 512 QAM for 7 and 14 MHz for PTP 820C
- Removed 7 and 14 MHz options from 2+0 link types for PTP 820C
- Added warning about availability of Commscope 6ft antennas for PTP 820
- Added LPU to PTP 820G automatic Bill of Materials and additional Optional Extras
- Changed Edge-CET-Node licenses to a quantity of 2 rather than 4, for 820G 2+0 configurations
- Removed Canadian 310.5 compliance from Andrew 3ft 11 GHz for PTP 820
- Fixed Capacity and Throughput values in Aggregate Proposal Reports for 810 and 820
- Fixed rounding errors in 820G XPIC capacity calculations, minor change to reported values
- Removed "Other" option from Antenna selection list for PTP 820
- Increased 5.8 GHz upper frequency limit, this may make a minor change to fade margin and availability for some regulations.

New or Changed in version 4.1.2

- Added support for PTP 820G for 1+0, 1+1, 2+0 Cross-Polar, 2+0 Co-Polar and 2+0 XPIC in the following bands:
 - Lower 6, Upper 6, 7, 8, 11, 13, 15, 18 and 23 GHz
- Added support for 7 and 14 MHz for 820C for all Link Types except 2+0 XPIC

Bug Fixes in version 4.1.2

- Fixed issue with re-ordering, sorting and deleting columns in table views

- Fixed issue with renaming of 2+0 XPIC links
- Fix bug when double-clicking on a 2+0 XPIC link in the map
- Fixed display of E1/T1 in PTP 810 2+0 Aggregate Performance Details
- Fixed issue when creating equipment templates from an existing 1+1 link
- Fixed issue applying equipment template optional extras
- Fixed error when changing the sites on a 2+0 PTP link

New or Changed in version 4.1.1

- Added support for PTP 820C 2+0 configurations
- PTP 820 "Global" antenna now default option

Bug Fixes in version 4.1.1

- Corrected refresh issues on PTP 810 2+0 Aggregate page
- Prevented error when changing from licensed to unlicensed frequency bands when on a child link on PTP 820
- Removed 28 MHz BW from PTP 810 8 GHz 126 T/R spacing as no valid frequency pairs
- Reinstated ODU-B as default option for PTP 800/810
- Round TDD Frame Offset to nearest integer to match product data entry

New or Changed in version 4.1.0

- Support for PTP 820 1+0 and 1+1 link types in the following bands
 - PTP 820C at Lower 6, Upper 6, 7, 8, 11, 13, 15, 18 and 23 GHz
 - PTP 820S at Lower 6, Upper 6, 11, 18 and 23 GHz

New or Changed in version 4.0.3

- Added support for FCC, Other-FCC and Canada Lower and Upper in 3.6 GHz band for PMP 450
- Added support for Japan at 4.9 GHz and Slovenia at 5.8 GHz for PTP 650
- Added option to specify Required Modulation Mode on PMP links - links which don't meet this will go red
- Added ability to import PMP Links from a csv file - see User Guide for format details

- Added additional information into Available Antenna lists to specify product and part numbers for SM additions.
- Added regulatory frequency ranges to PMP Links in the Installation Reports
- Added PMP Product Software Release version information to Installation Reports.
- Updated displayed antenna description for Force 100 antennas for ePMP

Bug Fixes in version 4.0.3

- Fixed issue preventing Google Earth Export when project only contains PMP Links
- Fixed issue with "red line" on path profile not updating when AP Height changed
- Fixed issue with contents listing in HTML Help file
- Fixed issue on downlink with transmit power not backing off correctly in 256QAM and QPSK - SISO for PMP 450 at 3 GHz
- Fixed issue importing multiple Pathloss profiles.

New or Changed in version 4.0.2

- Added a Performance Summary for each Access Point, which collates the Maximum Modulation mode for all PMP Links
- Removed "Preliminary" from PTP 650 5.1 GHz for United States and other FCC countries
- Updated ePMP Force 100 part descriptions
- Improved PMP Links view to ensure header line stays visible
- Added improved functionality to PMP Links when exported to Google Earth

Bug Fixes in version 4.0.2

- Fixed an issue to ensure link formatting rules hide links in map view when requested
- Corrected ePMP SM Maximum Transmit Powers for 5.4 and 5.8 GHz
- Removed ePMP Mounting Bracket from integrated antennas or where provided
- Fixed an issue when creating installation reports with PTP 810i 1+1 and 2+0 links
- Prevented copy function creating duplicate Access Points
- Fixed issues when creating and saving custom SM antennas
- Removed extra dish antenna from BOM when selecting Force 100

- Added distance markers back in to PTP 1+1 and 2+0 link export to Google Earth

New or Changed in version 4.0.1

- Add the ability to save a project in the v3.x.x format
 - Any new features will be lost from the file
- Include the number of PMP links in the project summary information
- Add the option to create a new custom antenna from the Subscriber Module antenna selection list

Bug Fixes in version 4.0.1

- Fixed errors when double-clicking an item in the Offline Map
- Fixed errors when copying equipment templates and rules
- Fixed errors with the new PMP link dialog
- Fix a bug which prevented the creation of a custom antenna from the unlicensed band antenna list
- Fixed non-ASCII character problems
- Stop the Subscriber Modules from requiring recalculation when the Access Point changes do not impact the link (such as name, description)
- Refresh the PMP link performance summary when the Subscriber Module changes
- Fix errors when deleting PMP Objects

New or Changed in version 4.0.0

Note that projects saved in this version of LINKPlanner **CANNOT** be opened in V3.x.x versions of LINKPlanner.

- Support for the PMP 450 product in 2.4 GHz, 3.5 GHz, 3.6 GHz, 5.4 GHz and 5.8 GHz bands
- Support for the ePMP product in 2.4 GHz, 5.1 GHz, 5.2 GHz, 5.3 GHz, 5.4 GHz and 5.8 GHz bands
- The Flags functionality in PTP has been removed and combined into the Custom Fields functionality. All existing Flag settings will now be available through Custom Fields.

New or Changed in version 3.6.6

- Support system release PTP 650 01-20

- Add TDM Support including Network Indoor Unit (NIDU) provision in the BOM
- Add PTP 650 MAB License and PTP 650 Group Access License to Optional Extras
- Add Hungary (Rural) at 5.8 GHz
- Add Guam, Puerto Rico, United States, US Virgin Islands at 5.1 GHz as Preliminary

Bug Fixes in version 3.6.6

- Correct the capacity and Precise Network Timing license entries in the BOM when using external antennas on PTP 650.

New or Changed in version 3.6.5

- Support system release PTP 650 01-10
 - Add PTP 650S through selection of Small Form Factor antenna (only available with Full capacity key)
 - Introduce TDD Sync for PTP 650 - introduced new TDD Sync Offset calculation option for all products
 - Add new RoW kit part numbers with US line cord option
 - Split 5.2 GHz into separate 5.1 and 5.2 GHz Frequency Bands
 - Note: this moves ETSI BBDR from 5.2 GHz band to 5.1 GHz band
 - Remove preliminary from 5, 15 and 30 MHz bandwidths
 - Note: slight adjustments to sensitivity figures across all bands and bandwidths may change availability
 - Change to Minimum Platform Transmit Power (from -11 dBm to -15 dBm)
 - Added Precise Network Timing option for license key for 1588 and Sync-E
 - Note: this license is added as default to PTP 650S
- Regulatory changes for PTP 650
 - Removed "Preliminary" from Argentina, Brazil, Chile, Oman, South Africa and Vietnam
 - Added Saudi Arabia (5.8 GHz), Brazil (4.9 GHz)
 - Removed "Preliminary" from Other at 5.1, 5.2 and 5.9 GHz and Other + Radar at 5.2 GHz
 - Added new countries to 5.1 and 5.2 GHz as "Preliminary"
 - Provided two regulatory options for Argentina (Private and Telecoms)

- Added new unlicensed Cambium antennas RDG4472, RDG4452, RDG4454
- Added new PTP 810 Series NMS AES License Key to Optional Extras – Security
- Removed the obsolete Summit X250, X350 and X440-L2-24t-AC switches
- Removed GPS Receiver as independent part - now only available as part of kit WB4141
- Replaced 6406066M02 with N000000L019 for use with the "All Indoor" ODU mounting.

Bug Fixes in version 3.6.5

- Correct the data rate calculations for PTP 650 at 40 and 45 MHz bandwidths. This may increase or decrease the data rate seen in previous versions depending on the range of the link. Very short links are unaffected.

New or Changed in version 3.6.4

- Regulatory changes for PTP 650
 - Removed "Preliminary" from Canada (4.9, 5.4 and 5.8 GHz) and United States (5.4 GHz)
 - Added United Arab Emirates (5.4 and 5.8 GHz)
 - Added 4.9 and 5.2 GHz for Other and 5.2 GHz for Other + Radar as "Preliminary"
 - Changed 5.9 GHz Other to "Preliminary"
- Added intermediate cable grounding kits for IRFU and long waveguide to the BOM for PTP 800 and PTP 810, for antenna heights greater than 23m

Bug Fixes in version 3.6.4

- Correct the PTP 810 1+1 Frequency Diversity BOM
 - Fix item quantities and some IRFU and antenna part numbers for IRFU configurations
- Corrected vertical scale issues in offline map
- Fixed copy/paste links issue which resulted in duplicate sites if using sub-band B4 or B5 ODUs in Lower 6 GHz band
- Fixed issue with saving flag parameters and interaction with link formatting
- Fixed issue when sizing the warning panel which resulted in an error message

New or Changed in version 3.6.3

- Added note to BOM to identify some Extreme Summit Switches which are obsolescent
- Changed "password" to "access token" in Web Profile registration to avoid confusion with Cambium Support web portal password
- Added intermediate cable grounding kits to the BOM for PTP 650, 800 and 810 for antenna heights greater than 23m
- Removed "Preliminary" status for PTP 650 in Australia and New Zealand, added 5.4 GHz for New Zealand

Bug Fixes in version 3.6.3

- Changed default SKU for Canada from FCC/IC to RoW
- Restricted EIRP to 24 dBm at 45 MHz for 5.2 GHz in Regulatory Band 38 (FCC countries)
- Removed 2-port distribution manifold from default BOM when using the Dryline Dehydrator

New or Changed in version 3.6.2 (limited release)

- Update the warning when the selected antenna is not approved for FCC/IC to include 4.9 GHz and 5.2 GHz
- Round the data rate calculation for PTP650 Lite/Mid to the nearest Mbps
- Update the max EIRP values for Canada, United States and Hong Kong at 4.9 GHz
- Update the license availability for PTP650

Bug Fixes in version 3.6.2 (limited release)

- Maintain the Highest Modulation Mode when switching between Single/Dual Payload
- Display the correct project name after saving with a new filename
- Remove ODU RMK, Flex Waveguide Hangers and LPU End Kit from Long Waveguide default BOM
- Refresh the map after clicking the "Show the sites without links" button

New or Changed in version 3.5.5

- Support system release PTP 800-06-00

- Remove Preliminary status for 60 MHz bandwidth at Lower 6 GHz and 80 MHz at 11 GHz for FCC regulation.
- Introduce sub-band B4 and B5 ODUs for Lower 6 GHz.
 - Note: These overlap existing B1, B2 and B3 sub-bands, when opening old projects the BOM may update the selected ODUs.
- Remove capability to request path profiles via email
- Apply Frequency Separation limits to common port T/R spacing on 2+0 and Frequency Diversity configurations using ODUs for both PTP 800 and PTP 810
 - Note: This change means that 2+0 and Frequency Diversity cannot be supported for all combinations of T/R spacing and frequency band
- Retire remaining PTP 400 product line
- Add additional Cambium part numbers for unlicensed antennas
- Obsolete Commscope Flat Panel Unlicensed antennas
- Add EWP52 and EWP63 waveguide types to unlicensed cable selection
- Updated IRFU extras for PTP 810

Bug Fixes in version 3.5.5

- Prevent automatic request of profile when pasting profile from another project, to maintain any previous edits.
- Maintain map zoom level in Offline map when switching windows
- Prevent user-defined antenna reverting to integrated on bandwidth changes
- Allow multiple editing on Sites page
- Remove default ODU part numbers as standard, feature can be enabled from Options - Bill of Materials - Add default ODUs.
- Update the font cache to prevent errors when the font name contains Unicode characters
- Disable path profile requests for very short links (< 10m)
- Fix the bug "Observable tries to pop from the EventCollection when the collection" raised by a number of users

New or Changed in version 3.6.1 (limited release)

- Reduce QPSK to 64QAM power levels by 1 dB for PTP 650
- Update the "Other" and "Other + Radar" license definitions
- Remove mounting bracket from the PTP650 BOM

New or Changed in version 3.6.0 (limited release)

- Support for the PTP 650 unlicensed product in 4.9 GHz, 5.2 GHz, 5.4 GHz, 5.8 GHz and 5.9 GHz bands

New or Changed in version 3.5.4

- Introduced Preliminary support for 60 MHz bandwidth at Lower 6 GHz and 80 MHz at 11 GHz for FCC regulation.
- New 5.4 and 5.8 GHz licenses for Vietnam for PTP 600
- New 5.8 GHz license for Indonesia for PTP 600
- Add Uncoupled IRFU Transceivers to optional extras
- Add end warranties and new UC-APL parts to optional extras for PTP 600
- Automatically add coaxial cable hoisting grips to BOM
- Changed link order in reports to reflect displayed link order in LINKPlanner
- Added capability to allow link formatting rules to identify LOS, nLOS and NLOS links

Bug Fixes in version 3.5.4

- Apply Equipment Templates when using “Create links from this hub”
- Prevent splash screen from staying on top during start-up
- Fixed PTP 810 refresh errors when changing product or link types
- Fixed issue with link formatting rules on PTP 810 2+0 links
- Updated HP/SP nomination of 6 and 11 GHz antennas
- Limited TDD Sync burst duration options for PTP 500 to those available in product
- Correctly handle Unicode characters when displaying the pop-up availability report
- Prevent errors when calculating the terrain roughness and all of the terrain heights are set to the same value

New or Changed in version 3.5.3

- Updates to the embedded Google views:
 - Option to display the site labels
 - Option to preview the path profiles for existing links and between nearby sites

- Add support for Indonesia at 5.8 GHz for PTP 500

Bug Fixes in version 3.5.3

- Fix a bug with the automatic path profile requests when the user name or company name contain non-ASCII characters
- Fix error when editing BOM quantities
- Minor updates to part descriptions and optional extras

New or Changed in version 3.5.2

- Add support for STM-1 in PTP 810 by including a new TDM configuration panel for STM-1 and E1/T1
 - Existing PTP 810 links, TDM and MMU Model settings may no longer be valid and will be reset to default values with a user warning
- Add support for Enhanced Standard Master I/O module and additional modules to support STM-1 for PTP 810
- Introduced 3 variants of the GigE model to show different capabilities of the 3 FPGA options
 - Existing projects will default to GigE "J" where available, with a user warning
- Add support for 15 GHz NTIA band for PTP 800 including new ODUs
- Add end warranties to PTP 250 and PTP 500
- Reduce the restrictions on IRFU antenna selections
- Add Upper 6 GHz 4ft Cat B2 dual polar antenna option
- Add default lengths (10m or 30ft) to elliptical waveguide lengths for:
 - Distance to shack
 - Distance inside shack
- New 5.4 and 5.8 GHz licenses for Vietnam for PTP 250 and PTP 500
- New 5.4 GHz licenses for PTP 250
 - Serbia and Mexico
- New Summit Extreme switches available for all products as Optional Extras in the Bill of Materials

Bug Fixes in version 3.5.2

- Reduced maximum receiver power for PTP 300 and PTP 500 from -45 dBm to -51 dBm. This increases the minimum range at which links which don't have Radar enabled can be supported
- PTP810 optional extras moved from "Accessories" to either "Power" or "Cable, Accessories & Spares" sections, as for other products
- Stopped screen scrolling when adding extras to the BOM
- Fix a bug with the link formatting rules which appears if the user deletes a link whilst the rules are being processed
- Fix bug with the Google Map view which prevented the information balloon from appearing when selecting a link or site

New or Changed in version 3.5.1

- Include default project templates for the Vigants-Barnett/ITU-R prediction model settings

Bug Fixes in version 3.5.1

- Correctly display links that cross 180 degrees longitude in the maps
- Fix encoding error when displaying the sales contacts
- Fix bug with the installation report when a table wraps over 3 pages
- Correct error with the prediction model settings for protected links
- Fix bugs that occur when applying equipment templates to protected links, particularly when the template is for a different link type
- Prevent error when copying an antenna without a part number
- Fix bug with 1+1 Hot Standby links where the interference value would be set incorrectly when loading an existing file

New or Changed in version 3.5.0

- Introduction of web path profile service
 - Profiles entered straight into LINKPlanner project - no more emails
 - Option to automatically request profiles when a new link is created
- Display the appropriate Cambium contact information for links and projects
- Introduction of PTP 810 1+1 Frequency Diversity
 - Not allowed in FCC regions

- Support for different MMU Modems for PTP 810 at each end of link
- Support for Brazil regulation at 18 GHz for PTP 810
- Support for APC for 2+0 XPIC (allows 2+0 XPIC to be used at 18 GHz in ETSI region)
- Introduction of licensed band Hi/Lo site nomination - with default ODU part numbers put into BOM
 - This feature restricts frequency selection at an end to be compliant with site designation
- Enhanced Equipment Templates to include Performance Summary parameters
- Modified setting of Prediction Model to make it project based and not user based
 - Check model setting when first opening existing projects after upgrading
 - Prediction Model setting is stored in project templates
- Removed preliminary status from PTP 250 countries
 - Add Switzerland and Liechtenstein to 5.4 GHz band
- Add ability to create a ring of links on the offline map view

Bug Fixes in version 3.5.0

- Fixed screen refresh problem on Windows Vista and Windows 7 when using the Classic Theme
- Rounding down of PTP 810 GigE capacity figures for values below 100 Mbps
- Limited Diversity Improvement Factor to 200 in calculations as well as reports
- Removed 7 GHz FCC 25 MHz IRFU 2+0 XPIC option

New or Changed in version 3.4.0

- Introduce support for IRFU to PTP 810, including 2+0 Cross-Polar and 2+0 XPIC
- Add support for alternate T/R spacings on ODU's for PTP 810
- Add support for Super PDH Master I/O Module for PTP 810
- Add 21 x E1/T1 Expansion Module to optional extras for PTP 810 BOM
- Add support for NTIA with PTP 810 at 7 and 8 GHz
- Introduce capability to adjust frequency step size for IRFU to allow smaller rasters
- Expanded antenna selection for FCC at 6 and 18 GHz to include Cat B2 in line with FCC-12-87 rule change
- Add Cambium part numbers for unlicensed antennas

Bug Fixes in version 3.4.0

- Update of unlicensed antennas, resulting in:
 - A change of frequency specification for some antennas, which may no longer be available at 5.4 or 5.9 GHz.
 - A slight change in antenna gain, the majority increasing by ~0.25 dB, which may result in a slight change in predicted availability and data rate.
 - Links which included antennas that are no longer valid will be reset to the default antenna with a user warning.
- Fix error which prevented feeder losses being applied from equipment templates to new links
- Ensure that changes to availability requirements for 1+0 are preserved if Link Type is changed.
- Update "Missing Information" message when entering Personal Information, so that it is clear what must be included before the Options/Preferences can be saved

Bug Fixes in version 3.3.3

- Fix error which prevents the warning from being displayed when importing an incorrect file type
- Correct export links to spreadsheet so that it includes the primary link and both paths for PTP810 2+0 links
- Fix bug with the "paste sites" functionality which caused an error when pasting CSV data

New or Changed in version 3.3.2

- Add the lowest Ethernet mode to PTP600 products
- New functionality to import links from CSV file
- Include the 30 MHz bandwidth for 4.5 GHz NTIA
- It is now possible to edit multiple antenna height values in the Links page
- Rename FCC (Extended) to FCC (Rural) and update the warning message to reflect the new FCC regulations
- Change 6 GHz "Cat B" licenses to "Cat B1" to reflect the new FCC regulations
- PTP250 has preliminary support for additional licenses in the 5.8 GHz band
 - Finland, Greece, Iceland, Liechtenstein, Portugal, Serbia, Switzerland
- PTP600 ATEX/HAZLOC supports additional licenses in the 5.8 GHz band

- Finland, Greece, and Portugal

Bug Fixes in version 3.3.2

- Correct the reported installation receive power during alignment for protected links
- Update the max EIRP values:
 - 5.8 GHz - Bahrain, Bahrain, China, Denmark, Denmark, ETSI, Finland, Germany, Greece, Iceland, Ireland, Liechtenstein, Portugal, Serbia, Singapore, Spain, Switzerland, UK
 - 5.4 GHz - South Korea
- Fix bug to ensure that the correct flexible waveguide options are available for IRFU links
- Display the availability tooltip over the E1/T1 controls in the link loss summary panel
- Fix bug where transmit frequency does not reset correctly when switching band (1+1 links)
- Fix bug which caused an error when removing a user-defined antenna

Bug Fixes in version 3.3.1

- APC option must be disabled when the Link Type is 2+0 XPIC
- 2+0 XPIC is not available at 18 GHz/ETSI

New or Changed in version 3.3.0

- Add E1/T1 support to PTP810
- Incorporated ETSI Minimum Rated Transmit Power
 - Increases minimum transmit power level by 5 dB for ETSI regions, for short links enable ATPC
- Introduce ATPC/APC selection, which increases maximum transmit power setting on short links to optimize fade margin
 - Receive power levels at installation increased to a maximum of -20 dBm, operational receive levels keep the same upper limits
- New 5.8 GHz licenses for PTP500/PTP600
 - Finland, Greece, Iceland, Liechtenstein, Portugal, Serbia, Switzerland
- Added support for equipment templates

- Multiple equipment templates can be defined to control the configuration of new links
- Equipment templates can now include BOM optional extras
- Replaces the default settings for new links
- Create links by pasting data from a spreadsheet
- MOL export no longer supported
- Removed Summit switches from optional extras

Bug Fixes in version 3.3.0

- Fix the links to help file on OSX
- Fixed a problem which limited the available PTP810 modulation modes
- Project templates now load correctly
- If an error occurs when exporting a map to a PDF, LINKPlanner no longer tries to open the file
- Select the correct flex twist hanger in the BOM for 11 GHz
- Updated 11 GHz Dual Pol with OMK antennas to include FCC Cat B (2ft) and Canada 310.7B (4ft)

New or Changed in version 3.2.2

- Introduce PTP 810 2+0 with link aggregation, including 2+0 XPIC
- Introduce PTP 810 Capacity Keys
- Add automatic MMU selection to BOM for PTP 810
- Additional optional extras
- New unlicensed antennas
- New Encryption option in the equipment settings for PTP 250
- PTP 250 now uses the Cambium part numbers
- Rename PTP 800 Maximum Tx Capacity Limit to "400 Mbps"

Bug Fixes in version 3.2.2

- Fix bug which prevented the project from being exported to Google Earth if a formatting rule excluded any of the links from the export

- Correct PTP 300/500 Capacity License Key descriptions

New or Changed in version 3.2.1

- Change the antenna manufacturer to Cambium Networks
- Update 1ft and OMK antennas part numbers
- Remove preliminary status from PTP11800i with IRFU-HP
- Updated parts list for PTP 810

Bug Fixes in version 3.2.1

- Update the BNC Voltage algorithm in line with the PTP 800 User Guide

New or Changed in version 3.2.0

- Introduce Preliminary PTP 810 planning capability for 1+0 and 1+1
- Support System Release PTP 500-05-00 including consolidation of PTP 300 with PTP 500
- Remove Preliminary Status from PTP 800 Spatial Diversity
- Remove Preliminary Status from 6 GHz IRFU
- Update 11 GHz 4ft antennas to support Canadian regulatory compliance
- Introduce the capability to display sales and support contact information in LINKPlanner
- Introduce the capability to display news information in the welcome page
- Updated Licensed Band Switch part numbers

Bug Fixes in version 3.2.0

- Corrected FCC 7 GHz 25MHz bandwidth emission designator
- Fix bug in VB availability calculations for links with negative fade margins
- Fix project tree refresh bug in OSX
- Correct PTP28800 minimum power output at 16QAM and 32QAM.
- Correct PTP28800 noise figure
- Trap the exception that can occur if an empty project is opened
- Trap the exceptions that can occur when starting the Google Earth icon server

New or Changed in version 3.1.2

- Updated PTP 250 FCC/IC Products to Cambium part numbers, added reference to Cambium part numbers for ETSI/RoW products
- Updated PTP 800 Long Waveguide parts to Cambium part numbers
- Updated PTP 800 installation reports
- Added antenna polarity to site installation section of licensed band reports
- Added 11 GHz 2 ft antennas to FCC regulation with Cat B compliance

Bug Fixes in version 3.1.2

- Fixed a bug in IRFU Spatial Diversity to ensure that Secondary uses the same Maximum Power and EIRP as the Primary as they share the same antenna system, only affected Non-LOS paths to diverse antenna.
- Fixed a bug in 1+0 licensed band installation reports which prevented all the antenna information being provided
- Fixed a bug in link formatting rules when testing against negative reference levels
- Fixed error that occurred when the cursor moved over a hyperlink whilst creating a link in the interactive map
- Removed Motorola from Part Number header in BOM spreadsheets

Bug Fixes in version 3.1.1

- Fix bug which prevents a project from being saved if the username contains non-ASCII characters
- Correct switch descriptions

New or Changed in version 3.1.0

- Introduce Preliminary Spatial Diversity capability for licensed
- Removed Preliminary Status from PTP 250 5.4 GHz licenses:
 - Canada
 - Guam
 - Puerto Rico
 - United States
 - US Virgin Islands
- Added optional capability for users to define a watermark for path profile images

- Included FCC 99.95% minimum payload requirement to link error status
- FCC License Coordination report now reports Cambium Antenna part number, receive end signal level and fade margin
- Added Switch selection option as an Extras tab for licensed products in the BOM

Bug Fixes in version 3.1.0

- Paste sites wasn't importing tower heights correctly in all cases
- Ensure link error status updates automatically when prediction model is switched between ITU and Vigants – Barnett
- Ensure default equipment settings are used for new links when generated through the link icon on the map
- Fixed a bug in the 1+1 Redundant Antenna BOM creation which wasn't generating correct feeder components for remote mount antennas
- Fixed unpredictable behaviour when displaying a site or panning the view

Bug Fixes in version 3.0.0.rc2 BETA

- Paste sites from Google Earth has been fixed
- The map "PDF Export" functionality works when the project has not been saved
- Fixed the export error that occurred if the link name contained a '.'
- Select the correct file extension when saving in OSX
- Remove the embedded web browser that displays the Google Map on OSX
 - This is a temporary measure until there is a suitable fix for a critical bug that causes LINKPlanner to crash on OSX
- Flexible waveguide selections for long waveguide links are now stored correctly in the project file

New or Changed in version 3.0.0 BETA

- Cambium rebranding
 - All reports now carry the Cambium Networks branding
 - New default installation location
 - Previous LINKPlanner preferences are duplicated
 - It is possible to run v3.0.0 and v2.7.0 at the same time
- Introduction of Vigants - Barnett Prediction Model

- Removed Preliminary Status from 2+0 Cross-Polar Common Dual Polar Direct Mount Antenna
- New interactive map and embedded Google Maps/Google Earth
 - Interactive map features:
 - Movable labels
 - Create links from hub (right-click on site)
 - Customisable colours and styles for links and sites
 - Export to full-page PDF
 - Embedded Google Map/Google Earth features:
 - Google Maps work on Microsoft Windows and OSX
 - Google Earth is only available on Microsoft Windows
 - Create and edit sites and links in Google Maps
- Copy and paste link path profiles
 - View and edit path profiles in a spreadsheet
- Multiple editing of links in the Links panel
 - Edit attributes for one or more links at once
- Link formatting rules
 - Create custom rules to control the visualisation properties of links
 - Use rules to control which links are included in the map, reports or in project export data
- Copy and paste links, sites and link formatting rules
 - Smart merge for when existing sites or links are similar to the data that is being pasted
 - Quickly duplicate links in the Links panel
- Project summary when you hover your mouse over the project name in the tree
 - Displays the number of sites and links in the project
- Display the reason for failure of a link in the map and on mouse-over the link in the tree
- Added detailed Feeder Loss fields to Links View

Bug Fixes in version 3.0.0 BETA

- Corrected 11 GHz Flex Waveguide Loss value for IRFU

New or Changed in version 2.7.0

- Introduce Preliminary IRFU PTP 800 planning capability
 - New FCC licenses at 7 GHz
- Updated capacity calculations for PTP-250-02-00
- New PTP 250 licenses:
 - Canada at 5.4 GHz (preliminary)
 - Guam at 5.4 GHz (preliminary)
 - Puerto Rico at 5.4 GHz (preliminary)
 - United States at 5.4 GHz (preliminary)
 - U.S. Virgin Islands at 5.4 GHz (preliminary)
 - Uganda at 5.8 GHz
- Minor changes to the PTP250 installation report
- Add ability for users to save a project as a .ptptemplate file
 - Templates can contain custom antenna information
- Add FCC Availability at Minimum Payload Capacity
- Update the available modulation modes for the FCC/adaptive in line with FCC regulation changes
- Changes to the BOM
 - Icons used to signify additional user input is required or that an item is an optional extra
 - Notes field can be edited
- New PTP 800 4ft antenna part numbers available for all regions. Previous part numbers are now obsolete.
- New antennas available at 6 and 11 GHz for Canada

Bug Fixes in version 2.7.0

- Distance ticks did not appear when displaying for 1+1 links in Google Earth
- Use the tropospheric fade margin when calculating the Annual 1-way Availability in the detailed Availability window
- Fixed a bug in the fade margin calculation for ODU-B products which was double counting the power offset in higher modulation modes, resulting in a degraded fade margin for modulation modes above lowest mode.

New or Changed in version 2.6.2

- The path profile service has been updated to use the following data sources:
 - SRTM v2.1
 - ASTER
 - GeoBase
- Add warning to link BOM panel reminding users not to order ODUs until the license has been granted
- New optional extras for PTP 600 UC-APL

Bug Fixes in version 2.6.2

- Add BNC Target Voltage to PTP 300/500 installation reports
- Correct emission designator for FCC 80 MHz bandwidth

Bug Fixes in version 2.6.1

- Update the part numbers for the 28 GHz ODU Coupler Mounting Kits
- Fix a bug that caused an error when generating a project level report if any of the links had a long waveguide

New or Changed in version 2.6.0

- Support system release PTP800-04-00:
 - 2+0 support
 - Added NTIA regulation to 7 and 8 GHz
 - ETSI 32 GHz is no longer preliminary
 - Added ETSI 28 GHz
 - Added support for ODU-B at 11, 18 and 23 GHz
 - Introduce new part numbers for 1ft and 4ft antennas for PTP 800 in EMEA region only (available through the grayed out selection area)
- Introduce User Defined Loss field for remote antennas for PTP 800
- Introduce Long Waveguide planning option for PTP 800 at 6 and 11 GHz
- Introduce FCC (Extended) regulation to support all modulation modes for PTP 800
- Introduce additional detailed availability information for PTP 800

- PTP 800 Link Summary Performance parameter Link Availability / Lowest Mode Availability now reports 2-way Availability plus Rain
- Added additional capacity information to Performance Charts when using Adaptive Symmetry (including PTP 250)
- Added Predicted Link Loss field to PTP 800 installation reports
- Updated regulatory information for Argentina, Ecuador, Lichtenstein, Norway, Peru and Venezuela for PTP 250
- Added Export function for Performance Chart data
- Changed project navigation tree for 1+1 to support a link node and four separate paths
- Improved icons in project navigation tree to distinguish different types of links

Bug Fixes in version 2.6.0

- Updated Installation report to provide maximum value for Max EIRP rather than left end value
- Fix a bug that prevented certain KML files from being imported
- Restrict existing FCC regulation to meet FCC modulation mode capacity limits for PTP 800

New or Changed in version 2.5.2

- Added spreadsheet export function to TDD Sync window
- Added antenna beamwidth to PTP 800 installation reports
- Added clarification to receive power for unlicensed band in installation report to show it equates to transmit power during alignment
- Use neutral colours for the performance charts

Bug Fixes in version 2.5.2

- Added coupler losses for Hot Standby into “Common Loss” field in FCC License Coordination report
- Removed obsolete tag from 2ft antennas at 32 GHz
- Include 3ft antennas for 15 GHz Mexico regulation
- Remove 3ft antennas for 11 GHz Canada regulation
- TDD Sync warning no longer appears when the settings are valid

New or Changed in version 2.5.1

- Updated regulatory information for China, India, Indonesia, Mauritius and South Korea for PTP 250
- Remove Preliminary status from PTP 800 Upper 6 GHz FCC regulation
- Incorporate Canada regulation into PTP 800 38 GHz
- Automatically include radome for 6 GHz 10 and 12 foot antennas in BOM and incorporate radome loss into performance calculations
- Add information note when first activating TDD-Sync to link to settings page
- Include additional installation items in BOM extras

New or Changed in version 2.5.0

- Support for the PTP 250 unlicensed product in 5.4GHz and 5.8GHz bands
- Display Predicted Receive Power in the Performance Summary section
- Change the order of Product and Regulation selections in the Equipment panel
- Change the Path Length calculations from spheroid to ellipsoid.
NOTE: This results in slight changes to the path length (less than 0.5%) and may result in small changes to the Predicted Availability
- Added capability to export the BOM for a single link to a spreadsheet
- Added capability to configure prioritized list of default licenses for each band
- PTP 800 Installation Reports updated to indicate which ends are Hi and Lo

Bug Fixes in version 2.5.0

- Change Maximum Receive Power limit to -35dBm (from -30dBm) for PTP 800.
NOTE: This may cause some very short links to display errors that in previous versions appeared to be OK
- Updated “Max User IP Throughput in either Direction” in Installation Reports to show the maximum value, rather than the value for one end.

New or Changed in version 2.4.1

- Support 322MHz T/R spacing at 15GHz for ETSI regulations
- Display data rates and availabilities in tooltips on performance charts
- Include performance charts in reports
- Add Full Power regions for OOBM variants of PTP600

Bug Fixes in version 2.4.1

- Fix part numbers for Upper 6GHz ODUs for FCC regulations
- Fix 2 bugs that prevented certain KML files from being imported
- Ensure that the main window doesn't appear off-screen on startup
- Fix a bug that could cause the power limit warning to be displayed at the wrong time.

New or Changed in version 2.4.0

- 1+1 Hot Standby support for PTP800
- ATEX/HAZLOC support for PTP600
- Import profiles from Pathloss
- Facility for modifying quantities and adding accessories to the Bill of Materials for a link
- Clearer warnings when a link is planned at 5.4GHz near a TDWR radar location. The warnings are also included in reports.
- Include PTP800 power supply (for converting 110/230V to 48V) by default in the Bill of Materials
 - **Please note that you must select a region on the Options/Bill of Materials page in order to get the correct part number for the power cable.**
- Support for FCC at Upper 6GHz, and increase the number of modulation modes available for FCC and Industry Canada at Lower 6GHz and 11GHz
- "Notes" column in the Bill of Materials that displays information about certain items (such as whether they are obsolete)

Bug Fixes in 2.4.0

- Fix bug during report generation when using 60MHz channel separation in ETSI Upper 6GHz
- Don't allow 2ft antennas at 11GHz in FCC regulations
- Warn when trying to open a profile as a project, and vice-versa
- Fix a bug in the profile chart when reversing a link

Please note that the contact address for link planner questions is now linkplanner.ptp@motorolasolutions.com

Bug Fixes in 2.3.10

Version 2.3.10 fixes 2 issues that were introduced in version 2.3.9

- Fix 3 antenna part numbers
- Fix an issue with using PTP59600 in the 5.8GHz India regulation (region 19)

New or Changed in version 2.3.9

- Introduce new 2ft and 3ft antennas for PTP800, and retire older 2ft and 2.5ft antennas.
- Introduce new part numbers for PTP300/500/600 in USA and Canada
- ETSI Upper 6GHz is no longer preliminary

Bug Fixes in 2.3.9

- Prevent the link panel from getting unnecessarily wide on Mac OS X

New or Changed in version 2.3.8

- Add Mexico as a supported region at 5.8GHz and 5.4GHz, using the Out Of Band Management variant of PTP-600

New or Changed in version 2.3.7

- Support system release PTP500-04-00:
 - TDD Sync using PTP-SYNC
 - New region code for Spain at 5.8GHz
- Support system release PTP800-02-04:
 - 60MHz channel separation in ETSI Upper 6GHz
 - FCC 26GHz is no longer preliminary
 - New 8GHz channel pair at 311.32MHz T/R spacing
- Include PTP800 links using adaptive modulation in FCC Coordination output
- Include the FCC database of TDWR (weather radar) stations. A warning will be displayed for links operating at 5.4GHz within 35km of a TDWR station; steps must be taken by operators to ensure that they do not interfere with these radars.
- Include charts of throughput against availability in the Performance Details

Bug Fixes in 2.3.7

- PTP800:
 - 32QAM for 32GHz at 7, 14 and 56MHz bandwidths
 - 7 and 14MHz bandwidths for Upper 6GHz
 - Reduce power for 32QAM in Upper 6GHz and 32GHz
 - Restore bandwidths which were removed in version 2.3.5

Bug Fixes in 2.3.6

- Fix a bug which caused antenna gain on some links using PTP300/400/500/600 with integrated antennas to be calculated incorrectly (possibly as much as 5dB low at each end)

New or Changed in version 2.3.5

- Support system release PTP800-02-02
 - Add regulation definition for Mexico at 15GHz with 315MHz and 644MHz T/R spacings
 - 38GHz FCC and 8GHz ETSI are now officially supported regulations (they are no longer preliminary)

Bug Fixes in 2.3.5

- 38GHz ETSI QPSK max power increased by 1dB
- 38GHz/700MHz (FCC) max power and sensitivity each reduced by 1dB
- PTP800 Bandwidths are now restricted based on T/R spacing – some previously available combinations were actually not supported and have now been removed
- All PTP800 T/R spacings other than 252.04MHz and 311.32MHz must use frequencies that are multiples of 250kHz. This was not always enforced in previous releases
- Removed the ability to select PTP800 transmit frequencies that aren't separated by the selected T/R spacing.

New or Changed in version 2.3.4

- Add regulation definition for Spain at 5.8GHz, which will be supported by PTP58600 in the upcoming 09-01 system release
- Enable 256QAM and 64QAM0.92 in 5MHz channels on PTP48600 and PTP49600

Bug Fixes in 2.3.3

- Fix a bug that prevented creation of custom antennas introduced in version 2.3.2

New or Changed in version 2.3.2

- Support for PTP800 system release 02-01
- ETSI region for 15GHz and 13GHz is no longer considered preliminary
- Added Single/Dual payload control for PTP600

Bug Fixes in 2.3.2

- Don't display Spatial Diversity in reports for PTP800
- Display a consistent antenna gain in reports even when no transmit frequency has been selected.

Bug Fixes in 2.3.1

- Fix a bug that could cause PTP-600 not to display any dual-payload modulation modes

New or Changed in version 2.3.0

- Add support for Adaptive Modulation for PTP800
- Allow multiple links between the same pair of sites

Bug Fixes in 2.3.0

- Include Link BOM rather than Project BOM in installation report
- Adjust tolerance of timing errors for PTP-SYNC
- Updated part number for 7/8GHz waveguides
- Fix coordinates in FCC Coordination output file

New or Changed in version 2.2.0

- Add support for PTP-800 in the following bands and licenses:
 - 38GHz: FCC, ETSI
 - 32GHz: ETSI

- 26GHz: FCC
- 18GHz: Brazil
- 15GHz: ETSI
- 13GHz: ETSI
- 8GHz: ETSI
- 7GHz: ETSI
- Upper 6GHz: ETSI
- Lower 6GHz: FCC, Canada, ETSI

Some of these are marked as preliminary and will not be supported by PTP800 until a later date.

- Add PTP-SYNC as an alternative TDD Synchronization mechanism for PTP600
- Add submenus in column chooser
- Fix problems with non-ASCII characters in report filenames
- Fix issue with rain calculation in very dry parts of the world (eg. Egypt or Antarctica)

New or Changed in version 2.1.0

- Support for the PTP-800 product range in ETSI at 11GHz
- Fixed an error with the BoM for PTP-600 with E1/T1 selected
- Changed from Chmox to iChm as the recommended help reader for Macintosh
- Added the ability to reverse a link
- Removed the distance markers from links except for the selected link

New or Changed in version 2.0.0

- Support for the PTP-800 product range in licensed bands
- Calculate the effects of rain and atmospheric absorption (ITU-R P.530 and supporting standards)
- Display a Bill of Materials for a link and also for a project as a whole

New or Changed in version 1.6.0

- Support PTP-600 system release 08-03
 - NTIA region code for PTP48600 and PTP45600
 - Increased performance in 20MHz channels

- New TDD sync burst and frame durations
- Increase power limit to 23dBm in all bandwidths for PTP25600
- List all PTP-400 products as “retired”.
- Improved modelling of PTP-600 hardware. This means that calculated results may differ slightly from previous versions of the LINKPlanner.

Bug Fixes in 1.6.0

- Fix for occasional error when generating reports if link names contain non-ASCII characters
- Fix for occasional error when changing report font or paper size
- Fix for error when using E1/T1 on PTP54300 in line-of-sight mode
- Fix for AVA5-50 and LDF4.5-50 cable types not being saved correctly

New or Changed in version 1.5.0

- Support for PTP-500 and PTP-300 software 03-02. Includes E1/T1 support and “Line-of-Sight” mode for PTP-300.
- Add “Unregulated” license for PTP25600 that allows 30MHz channel bandwidth
- Double-click or use the mouse wheel to zoom in and out of the project map.

Bug Fixes in version 1.5.0

- Correct the cable loss displayed in reports
- Correct the attenuation of the AVA5-50 and LDF4.5-50 cable types
- Reduce EIRP limit from 51 to 50dBm for PTP49600 and PTP48600 in USA and Canada
- Increase EIRP limit of PTP49400 to 49dBm and increase power output in lower modulation modes by 2dB
- Reduce maximum power output of PTP58600 from 34 to 33dBm in China

Bug Fixes in version 1.4.1

- Fix a bug that prevents the use of 5MHz channels in PTP48600 and PTP49600

New or Changed in version 1.4.0

- Added TDD Synchronization for PTP600.

- Added pan and zoom capabilities to the project map, and the ability to create a links between sites directly from the map.
- Added Radio Waves antennas in the 4.4-5.0GHz range.
- Installation report now contains all relevant parameters in the order they appear in the equipment's Installation Wizard.
- Added AVA5-50 and LDF4.5-50 Heliac cable types.
- Don't register the ".dat" file extension to the link planner any more. The path profile system now sends ".ptpdat" files.
- Rename "Link Availability" to "Lowest Mode Availability", which is a more accurate description.

Bug Fixes in version 1.4.0

- PTP49600 no longer supports 256QAM and 64QAM 0.92 modulation modes in 5MHz channels.
- PTP49600 was incorrectly using 27dBm maximum power, rather than 24dBm. Please note that if you have planned links using the incorrect power, you should check those links in the new version to ensure that they still meet your requirements.
- Fix a couple of bugs when importing KML and CSV files.

Bug Fixes in version 1.3.1

- Project proposal reports no longer repeat information for the same link over and over again.

New or Changed in version 1.3.0

- Reports are now in PDF format by default. PDF is more convenient and produces better quality printed output. When exporting a report, you can still select HTML in the "Save As" dialog if necessary.
- Reports separated into "Installation Reports" and "Proposals". Installation reports contain detailed configuration and performance parameters. Proposals offer a more general overview.
- Allow for custom (user-defined) fields. These can be assigned to projects, sites, links and "ends".
- Panels may now be detached from the main window. For example, this allows you to open multiple links at the same time, or to view the project overview at the same time as an individual link.
- Update throughput and latency calculations for PTP-600 release 08-01

- When a link is configured for telecoms traffic, display the kind of payload each modulation mode is able to carry.
- Add Hong Kong region code for PTP49600
- Add PTP48600
- For PTP-600, allow narrow channel bandwidths to be selected in regions that require radar detection.

Bug Fixes in 1.3.0

- Fix incorrect latency calculations when using 16QAM 0.63 Single as the lowest telecoms mode.
- Don't allow "Adaptive" symmetry for PTP-600 in 5MHz channels.

New or Changed in version 1.2.0

- Update the PTP49600 support with the final equipment capabilities (20MHz channel bandwidths, 256QAM available in all bandwidths)
- When E1 or T1 interfaces are selected (PTP-600 only), display the latency and expected availability, and change the throughput numbers to reflect the IP throughput remaining. There is a new equipment configuration parameter ("Lowest Telecoms Mode") that can be changed to affect the latency.
- Add new data rate calculations and features for PTP-600 release 08-00.
- Add a 'Project description' field on the main Project page.
- Make the map and profile panels resizable (click and drag the bottom edge of the panel)
- Split the equipment panel into two sections, so that the main window isn't forced to be too wide. The first section is for equipment selection, and the second for configuration.

Bug Fixes in 1.2.0

- Don't allow 30MHz channel bandwidth on PTP25600. If you load a project that was using this setting (even if only for the "Default settings for new links"), you will receive a warning when you load the project saying that "30 is not a valid 'bandwidth' value". Those links will be changed to 15MHz bandwidth.
- Fix the regulatory definitions for Korea. Links using that region may display different data rates.
- Adjust the definition for 256QAM 0.81 Dual when optimised for TDM. Predictions for links that would spend a lot of time in the top-rate modes may be reduced slightly.

Bug Fixes in 1.1.1

- Fix a few problems with non-ASCII characters in operating system and web proxy error messages.
- Detect corrupted Google Earth file associations and display a more helpful error message.
- Fix a crash on startup if the user's Windows Profile contains non-ASCII characters.
- Fix the performance details display for PTP-500 when in Adaptive mode.
- Fix the 'This antenna is not allowed in the current region' message, which appeared more often than it should have done.

New or Changed in version 1.1.0

- Compatible with PTP500 and PTP300 software version 03-00.
- Sort tables of links and sites by clicking in the column headers.
- Improved Hydra import.
- Colour links red in the tables, navigation tree, and map display when they do not meet their requirements.
- Edit some attributes of links and sites directly in the table (name and description).
- Allow deleting of sites and links from the tables via a context (right-click) menu.
- Antenna selection list now has separate columns for manufacturer, description, part number, diameter, and whether it is dual-polar. The list can be sorted by any of these attributes.
- New panel for managing custom antennas.
- Change the preferences dialog to use a tabbed layout. Add a section where the user can choose their default licenses for each region. Also add a 'Test Network Settings' button.
- When launching external files (such as KML and CSV), detect if no application is associated with that file type and suggest an appropriate application.
- Preview profiles between sites in Google Earth before creating links

Bug Fixes in 1.1.0

- Account for frame overhead in PTP500 and PTP300 data rates (causes a very small reduction in throughput).
- Import sites from KML files that use the 'Schema' tag (generated by Google Earth Pro when importing data from a delimited text file).

- Fix the part numbers for certain High Performance Radio Waves antennas.
- Reduce the output power for short links (may reduce throughput calculations for short links)

New or Changed in version 1.0.3

- Improved CSV import support. The link planner should now be able to import a much wider range of 'delimited text files' (not just CSV). It also should be able to cope with encodings other than ASCII.
- Enable pasting of sites from spreadsheets.
- When editing a profile, the user can add and delete points.
- Add PTP49600 to allow pre-planning of PTP49600 networks. (PTP49600 is planned to launch at the end of Q4/08)

Bug Fixes in 1.0.3

- In the report, the diversity spacing is now displayed in the user's chosen units.
- Fix importing of certain KMZ files.
- Fix power limits for PTP-500 and PTP-300 using narrow bandwidths at 5.8 GHz in UK, ETSI, Germany and Denmark regions, and at 5.4GHz in ETSI, FCC, Australia and Canada.
- Don't allow narrow bandwidths for PTP-500 and PTP300 at 5.8GHz in China, Australia, Singapore, Korea, India, Thailand and Bahrain. Please note that if you were previously using a narrow bandwidth in one of these regions, you will receive a warning when you load a project that the previous bandwidth value was not valid.
- Reduce some of the flicker when expanding and collapsing parts of the link display.
- Fix the "value XXXX exceeds value of control" messages that some people have experienced when using large numbers for the maximum antenna height.
- Fix double-clicking on a row in the sites table. Previously, the correct site was not always selected.
- Fix sensitivity of PTP45600 in narrow bandwidths.

New or Changed in version 1.0.2

- Rename 5.9GHz 'Unregulated' license to 'Full Power'

Bug Fixes in 1.0.2

- Fix PTP-500 and PTP-300 data rate for long links.

New or Changed in version 1.0.1

This is a bug fix release and thus there are no major new features, minor features are;

- Startup tips.
- Improved 'New Version' indicator.
- New Radio Waves antennas.
- Get Profile indicator.
- Better handling of missing or locked files.
- More informative error handling when getting profiles.

Bug Fixes in 1.0.1

- Make the LINKPlanner work on older PC CPUs that don't support SSE2 instructions (eg. Pentium 3).
- Fix an error in the PTP58600 power limit in ETSI and Denmark.
- Stop opening URLs twice on Windows.
- Use the correct path separator in HTML reports on the PC to enable the reports to be moved to other platforms.
- Correct the Link Availability in the HTML report and improve the layout for the installation section.

New or Changed behaviour in version 1.0.0

PTP300, PTP400 and PTP600 support. It also supports the complete range (licenses and Lite) of PTP500 products. PTP600 TDD sync is not yet supported.

- When needing to change obstructions through multiple points (eg. for a forest) then select the region, type a value and press enter to put that value in the selected cells.
- A reflection calculator enables optimum diversity spacing to be selected to mitigate reflection from horizontal reflecting surfaces such as lakes and sea.
- Warnings for large antenna size in certain licenses
- Added progress bars to reports and exports.
- Support for the kmz file type for import and export from Google Earth. The ends of links now have descriptions in Google Earth.

- Support for copy and paste of locations from Google Earth to LINKPlanner.
- Support for editing multiple profile points at once by selecting them, typing a number and then pressing Enter.
- Version for the Intel Mac.

Bug Fixes in 1.0.0

- Fix that prevented the menu File->Exit from working properly.
- PTP500 powers to be used during installation were incorrect for short range and radar detection regions.
- LINKPlanner failed to start if the user name contained non-ASCII characters
- KML files contained and altitudemode rather than altitudeMode causing problems in older versions of Google Earth
- File->Exit did not work when there were unsaved changes.

New or Changed behaviour in version 0.6

- Google Earth display: The Google Earth display has been improved in the following ways:-
 - It includes Ground Fresnel zones, Vertical Fresnel zones and range markers
 - Clicking The Google Earth toolbar button when a link is selected zooms and centers to that link with the local on the left and remote on the right
 - Clicking the Google Earth toolbar button when a Site is selected zooms to the links connected to that site with the site in the center
- Installation Report: The installation section of the Link Report is enhanced to include recommended power settings during pointing and post installation. It also adds the recommended tilt of the antenna.
- Maximum Height: The maximum height for a site can be empty and it will be ignored. When defined it becomes an advisory limit for the antenna height above ground.
- Compatibility with Excel: CSV output is now encoded as UTF-16 little-endian, with TABs as field separators. This provides improved compatibility with Excel when regional settings are not English.
- Online Help: The user manual is now available in CHM format giving faster access to the features of the LINKPlanner.

Bug Fixes in 0.6

Map and profile displayed boxes for characters when using a non-english region: There is now improved support for non-Latin character sets. If boxes are displayed instead of text on the Map and Profile charts, install one of these two fonts:-

- ☐ Arial Unicode MS (http://en.wikipedia.org/wiki/Arial_Unicode_MS). This is optionally installed as part of Microsoft Office.
- ☐ Bitstream Cyberbit (http://en.wikipedia.org/wiki/Bitstream_Cyberbit)
- Antenna Heights (feet) scaling problem: The scaling problem, which made it difficult to use feet for antenna heights, has been fixed.
- TDM Data Rate Calculation: The data rate is now calculated correctly when TDM mode is selected.
- Errors when importing .dat files: The dat file import process has been corrected.

Known Issues

The following issues apply to this version of the LINKPlanner.

- Worst earth calculations are not present. The 99.99% worst earth curvature is shown on the graph. Links less than 10km are not affected, links longer than 10km with a clear line of sight including worst earth are not affected. Links, which are affected, will operate with a slightly degraded reliability relative to the LINKPlanner results presented.
- KML files may fail to open when two versions of Google Earth are installed.
- Importing dat files from versions of the Link Estimator older than 8.2 may fail. Work around is to upgrade to 8.2, and load the dat file and re-save the dat file in the new format.

Installation Notes

The PTP LINKPlanner is provided as a self installing executable file for Windows. The install process is described in the User Manual.

The Intel Mac version is provided as a disc (dmg) image. A README document within this image describes a three stage installation process.