
[NEW_RELEASE] System Software Earwig M2 17.2.5455 Release Notes

Required minimum version: Dragonfly 4442

NEW FUNCTIONALITY:

Dragonfly M2 16.2.5115 and Dragonfly M3 16.2.5429

* This release includes all the changes detailed in Dragonfly M2 16.2.5115 and Dragonfly M3 16.2.5429 changelogs.

New SA (Spectrum Analyzer)

* After completing a measure, now the SA compares and sorts all the channels and then scores them. This way the SA can suggest the best available channels. * The SA allows the user to run SA on remote CPEs.

Dynamic frame division react mode

* Added three frame division react modes. This mode tells the BS how to react to changes in downlink and uplink traffic when computing the automatic frame division. For example, a fast reaction mode changes the auto frame division value quickly, thus reacting fast to traffic changes. On the contrary, the slow mode averages more the traffic yielding to a slow behaviour and more stable frame division values.

RF Manager Subsystem

* This module will help the operator find the best frequencies for the BS. It is based on the *Smart Channel Selector* entity. The operator can create, delete, modify or run *Smart Channel Selectors* in order to find the best available frequency channels in current location.

* *Smart Channel Selector* can use the Spectrum Analyzer of the BS to select the best available channels or it can use *Smart Scans* (or even both).

* A *Smart Scan* is an advanced way of scanning available frequencies. The operator can create as many *Smart Scans* as needed, at least one per carrier is recommended.

* A *Smart Scan* will scan the frequencies moving all the connected CPEs within each frequency change and collecting advanced stats, including traffic efficiency, modulation, CINR and interference histograms, average and median values.

- * If *Smart Scans* are attached to a *Smart Channel Selector*, the selector will run and use scan information to select the best possible available channels.
- * At this moment, this functionality is only available in the CLI console. In future firmware releases, RF Manager will be also configured in the management web.

Broadcast and multicast traffic limiter

- * The operator can limit the rate of broadcast, multicast or both traffic which will be transmitted by the user.
- * This functionality can be configured in the local AA page for each user, template or group.
- * Point out that this restriction applies for the whole user, so it does not take into account for which service the broadcast or multicast packets will be sent.

Continuous transmission mode

- * If this functionality is enabled, the unused downlink symbols will be filled in with padding.
- * Notice that this mode increments the power consumption significantly, so it should be used only for debugging purposes.

Downlink subframe optimisation

- * Higher modulations bursts are sent before than lower modulations bursts. In this way, higher modulations (with more probability of error) are sent near to the start frame preamble.

Advanced balance modes

- * The operator now has more control on which modulations are going to be used by the balance algorithm to distribute the users along each carrier.
- * Modulation selection. If downlink modulation is chosen, the balance algorithm will use downlink modulation for both, downlink and the uplink calculations. In the same way, if uplink modulation is chosen, the balance algorithm will use uplink modulation for both, downlink and uplink calculations.
- * Modulation source. The operator can choose the actual negotiated modulation or a expected modulation based on CINR or RSSI measurements as the modulation for the balance algorithm.
 - * Negotiated. The system will use the actual modulations.

- * CINR. The system will use the expected modulation which corresponds with the user CINR.
- * RSSI. The system will use the expected modulation which corresponds with the user RSSI.
- * Both criteria can be used together.

Miscellaneous

- * Advisor functionality is no longer available in multicarrier devices.
- * "Sector" references have been replaced by "Carrier" in the management web, system logs and CLI.
- * Since there is no way to know the interference level of the destination channel, broadcast HFH now resets the interference level.
- * Minor web typos fixed.
- * Configurable column in Signal Stats - Users table can show if the CPE has authenticated the BS.
- * Configurable column in Signal Stats - Users table can show the CPE main interface link status.

CORRECTED BUGS:

- * All the bugs detailed in Dragonfly M2 16.2.5115 and Dragonfly M3 16.2.5429 changelogs are also fixed in this release.
- * Bug fixed in balance logic which causes a kernel "Oops" if a signal cycle was running and a new user had just entered into the cell.
- * The RADIUS provision was not correctly working when a BS had zones of less than four carriers and a provision from another BS was uploaded.
- * Traffic Stats - Basic Service Stats table header was not properly aligned.
- * Now expected RSSI is correctly shown.
- * Bug fixed in balance by signal mode. Best sector was not correctly chosen.

[NEW_RELEASE] System Software Earwig M1 17.2.5082 Release Notes

Required minimum version: Dragonfly 4442

NEW FUNCTIONALITY:

Dragonfly M1 16.2.5082

* This release includes all the changes detailed in Dragonfly M1 16.2.5082 changelog.

CORRECTED BUGS:

* All the bugs detailed in Dragonfly M1 16.2.5082 changelog are also fixed in this release.

* Fixed some race conditions in initial ranging state machine which may cause the user to be stalled in initial ranging state and never ends the cell entry process.

[NEW_RELEASE] System Software Earwig 17.2.5029 Release Notes

Required minimum version: Dragonfly 4442

NEW FUNCTIONALITY:

Unified zones support

- * Full support for unified zones in multisectorial devices.
- * New concept of “zone”: physical space which has a common coverage area.
- * Each zone is defined by its sectors. The user chooses how many sectors a zone has (from 1 to 4).
- * All CPEs can be switched between the sectors that belong to the same zone. It can be done manually by the user or automatically by the BS, which is known as the “Users balance algorithm”.

Users balance algorithm

- * The first step of this algorithm is called the “Signal Cycle”. The signal cycle will switch the CPEs from their original sector to all the others inside the zone. In this way, the BS will have a snapshot of what signal stats the CPE has in each sector. While the CPE is in a test sector, its disconnection is inhibited due to the CPE may not listen to the BS there.
- * Thanks to the signal cycle, the BS knows if the CPE can be switched (or not) to a specific sector in the zone.
- * The BS will distribute the CPEs among sectors of the zone with different criteria:
 - * Disabled. No balance will take place.
 - * By signal. The CPEs will be placed in the sector in which their signal is better.
 - * By number of users. The CPEs will be sorted among sectors to achieve the same number of users in each sector.
 - * By traffic. The CPEs are distributed among sectors to try to balance the traffic load in each of them. Tail users are used to try to balance the number of users in each sector and minimise latency.

CORRECTED BUGS:

N/A