

CLAIMS

- 1) Reconfigurable radio remote unit (1) for distributed antenna systems, characterized in that it comprises a plurality of integrated radio frequency boards (2) each dedicated to a respective frequency band and configuration means (4, 5, 6, 7, 8) for remotely selecting said frequency bands and/or for setting the power level of said frequency bands.
- 2) Reconfigurable radio remote unit (1) according to claim 1, characterized in that said configuration means (4, 5, 6, 7, 8) comprise activation/deactivation means (5) operatively connected to said radio frequency boards (2) and configured for remotely activating or deactivating each of said radio frequency boards (2).
- 3) Reconfigurable radio remote unit (1) according to one or more of the preceding claims, characterized in that said configuration means (4, 5, 6, 7, 8) comprise power setting means (6, 7) operatively connected to said radio frequency boards (2) and configured for remotely setting the power level of each of said radio frequency boards (2).
- 4) Reconfigurable radio remote unit (1) according to claim 3, characterized in that said power level is selected from a plurality of predefined power levels.
- 5) Reconfigurable radio remote unit (1) according to one or more of the preceding claims, characterized in that said configuration means (4, 5, 6, 7, 8) comprises at least a control unit (4) operatively connected with said plurality of integrated radio frequency boards (2).
- 6) Reconfigurable radio remote unit (1) according to one or more of the preceding claims, characterized in that said control unit (4) comprises at least a configuration table (9) containing a plurality of setting parameters for each available frequency band and/or for each available power level.
- 7) Reconfigurable radio remote unit (1) according to claim 6, characterized in that, for each available frequency band and/or for each available power level, said setting parameters comprise: Automatic Level Control parameters, Gain parameters, Current Threshold parameters.
- 8) Reconfigurable radio remote unit (1) according to one or more of the preceding claims, characterized in that said control unit (4) comprises at least a

microprocessor (10).

9) Reconfigurable radio remote unit (1) according to one or more of the preceding claims, characterized in that, for each of said integrated radio frequency boards (2), said activation/deactivation means (5) comprise at least a
5 power amplifier (5) with an enabling/disabling port (11), wherein said enabling/disabling port (11) is operatively connected with said control unit (4).

10) Reconfigurable radio remote unit (1) according to one or more of the preceding claims, characterized in that, for each of said integrated radio frequency boards (2), said power setting means (6, 7) comprise at least an
10 attenuation circuit (6, 7) operatively connected with said control unit (4).

11) Reconfigurable radio remote unit (1) according to claim 11, characterized in that, for each of said integrated radio frequency boards (2), said attenuation circuit (6, 7) comprises at least a digital attenuator (6) and an Automatic Level Control (ALC) circuit (7) operatively connected with said digital attenuator (6).

15 12) Reconfigurable radio remote unit (1) according to one or more of the preceding claims, characterized in that each of said integrated radio frequency boards (2) comprises at least a band-pass filter (15) for passing a respective and predefined frequency band.

13) Reconfigurable radio remote unit (1) according to one or more of the
20 preceding claims, characterized in that it comprises a single main radio frequency board (3) provided with said plurality of integrated radio frequency boards (2) dedicated to respective frequency bands.

14) Reconfigurable distributed antenna system, characterized in that it comprises at least a reconfigurable radio remote unit (1) according to one or
25 more of the preceding claims and at least a master unit (24), wherein said master unit (24) comprises at least a supervision module (25) operatively connected with said control unit (4) of said at least a reconfigurable radio remote unit (1).

15) Reconfigurable distributed antenna system according to claim 14, characterized in that said supervision unit (25) comprises an integrated OMT
30 (Operation and Maintenance Terminal) unit configured for accessing and setting said at least a reconfigurable radio remote unit (1).

16) Reconfigurable distributed antenna system according to one or more of the

claims 14 and 15, characterized in that it comprises at least a management unit (26) provided with at least an OMC (Operation and Maintenance Centre) software (27) operatively connected with said at least a supervision unit (25) and configured for accessing and setting said at least a reconfigurable radio
5 remote unit (1).

17) Reconfigurable distributed antenna system according to one or more of the claims from 14 to 16, characterized in that it uses an authentication procedure for verifying if the OMC software (27) and/or the OMT unit is authorized to check and/or modify the frequency band configuration and/or power level
10 configuration of said at least a reconfigurable remote unit (1).