

Permissive Changes

The Permissive change rules are in Section 2.1043. This rule indicates the types of changes allowed to be made without filing for a new authorization. Changes to the basic frequency determining and stabilizing circuitry (including clock and data rates), frequency multiplication stages, basic modulator circuit or maximum power or field strength ratings require a new FCCID to be obtained. The rules also indicate what types of permissive changes there are and when a permissive change filing is required. This document defines general permissive change policies. More specific policies may be listed in other interpretation documents. The changes and policies are categorized as follows; Antenna changes, enclosure changes, PCB changes, Software changes and miscellaneous changes. Changes for Hearing Aid Compatibility (HAC) and RF exposure are handled separately but need consideration. It is important to note that when a device is modified, all appropriate changes need to be considered to determine the type of filing required. For example, a software change to add additional frequencies may be allowed with a permissive change but if the power in the new frequency band has increased Section 2.1043 requires a new authorization.

Whenever a Class II permissive change is filed for either EMC or RF Exposure reasons, an EMC test report and RFE evaluation is required regardless if either one alone has not been degraded.

1) Antenna changes

a) Equivalent Part 15 antennas

- i) A Part 15 Certification filing includes an antenna list and photos. The Antenna type(s), gain, model no. and manufacturer are usually stated. Additional equivalent antennas can be substituted then marketed and used by anyone without a filing.*

(1) *Exceptions due to Section 2.1043 compliance requirements.

- (i) UNII devices with DFS; Testing IS required with the lowest gain antenna to comply with the DFS requirements. Therefore, a permissive change is required for any antenna with lower gain than approved antennas.
- (ii) For Portable devices, the SAR levels are compared to the original to determine if a Class 1 or Class II (degradation) needs to be filed.

- ii) Additional Equivalent antennas must be of the same type (e.g. yagi, dish) and are of equal or less gain than an antenna in the filing.

- iii) Equivalent antennas have similar in band and out of band characteristics.

(1) -Consult specification sheet for cutoff frequencies.

b) New Part 15 antenna types

- i) Any new antenna type or higher gain antenna must be filed by the grantee with a Class II permissive change.

- ii) Compliance with Section 15.203 must be met. The End user /operator can substitute a standard connector for a unique connector but can no longer market the device.
- c) Antenna replacement for licensed transmitters.
 - i) Antenna changes can be made without a filing as long as grant conditions for RF safety restrictions or appropriate maximum ERP/EIRP are adhered to. Otherwise, a new filing is required.
 - ii) An integral antenna requirement means that the antenna is not user replaceable or non removable. E.g. GMRS, FRS transmitters

2) PCB or Hardware changes

- a) A change such as those listed in 2.1043(a) that results in a Non-electrically equivalent device requires new ID
- b) Versions of a device with different internal active hardware components (e.g. amplifiers and crystals) that result in different radio parameters (e.g. output power, frequency) require authorization under different identifiers for each version because the versions are NOT considered electrically identical and must be filed under different FCC identifiers." * E.g. Versions of a device with different internal active filter designs that operate on different frequencies must be filed under different FCC identifiers.
 - i) *For Part 95 devices, we do not allow a design that allows the end user to change plug in crystals.
 - (1) If the plug in crystal is only changed by the OEM, then the grantee could get an approval for multiple crystals under one FCC identifier as long as the device was tested properly. Historically, for part 95 devices, this has not been considered a design change as it involves just exchanging one crystal for another. Permissive changes for new crystals could be added as long as the new crystal does not cause the frequency range to exceed that which was granted in the original approval. A new identifier would be required if the new crystal caused the device to exceed the original approval.
 - ii) External Passive filters can be added to a device with a Class II permissive change.
 - iii) Part 74 and 90 Wireless microphones- Minor changes to passive component (resistor or capacitor) in circuitry is allowed under the original filing but not as a permissive change.
- c) Part substitution; electrically identical parts may be substituted. Whether a Class I or Class II filing is required is determined is by the test results.
- d) Adding or subtracting an on board amplifier component requires a new ID.
- e) A transmitter with and without an external amplifier can be filed under one identifier if approved in an original filing. Adding an external amplifier is not allowed with a permissive change. A second identifier would be required to add external amplifiers.
- f) Transmitters with and without an internal amplifier must be filed under two identifiers.
- g) Depopulated versions of a transmitter requires separate ID's
 - i) Non transmitter portions (such as receiver or peripheral circuits) can be depopulated.
 - (1) e.g. A cell phone with or without a digital display can be approved under the same identifier.
- h) Transmitter Chip replacements are allowed with a Class II PC under the following conditions:
 - i) The new Chip is pin for pin compatible.

- ii) The new chip has the same basic function as the old chip from an external perspective. (Internal frequencies may differ)
 - iii) No change in radio parameters.
 - iv) The same conditions apply when a small area (approximately same as chip) of the PCB board is replaced with an equivalent chip.
- 3) Enclosure changes
- a) For non-modular approved devices, only minor changes to an enclosure are allowed with a permissive change. The basic functionality and intended usage are the same, otherwise a new ID is required. For example, you cannot get approval for a desktop and tower computer under the same FCC identifier or a laptop and desktop under the same FCC identifier.
- 4) Class I and Class II Software changes for non-SDR approved devices. The following software only changes are allowed. Please note that software changes in the field that affect radio parameters cannot be made unless the device is a Software Defined Radio. The rules on Class III changes for Software defined radios are in Section 2.1043(b)3.
- a) Additional frequencies can be added to an approved device under the following conditions. Submit a new test report on new frequencies!
 - (1) If only the OEM will implement the new frequencies,
 - (i) Additional frequencies are allowed with a Class II PC if...
 - a. No Hardware changes
 - b. No increase in output power rating on new frequencies
 - c. Equipment Class remains the same.
 - i. *Changes that require new Equipment Class code requires new ID except for SDR approvals.*
 - d. RF safety changes are addressed.
 - e. Any device change does not require new ID
 - (2) End user software implementation on the new frequencies is not allowed unless the device was approved as a Software defined radio (SDR).
 - b) Adding new line items on Form 731 are allowed with a Class II permissive change.
 - i) Additional modulations/data rates (both higher or lower rates) that can be consistent with a Form 731 line item/emission designator.
 - c) A Class II permissive change for a version of a device with a decrease in output power or different field strength is allowed under the following conditions.
 - i) The Maximum Output power rating of the original does not change and there is no increase in the original maximum output power rating.
 - ii) No design change to increase or decrease output power.
 - (a) A decrease in power setting configuration acceptable.
 - iii) In no case can a power limit be exceeded.
- 5) Miscellaneous changes

- a) A Non-modular to modular approval change requires new ID. A full Modular approval to a Limited Modular Approval (LMA) requires new ID.
- b) Change from Software Defined Radio (SDR) to non-SDR or vice versa requires a new FCC identifier.
- c) Equipment class changes require a new ID except for SDR devices.
- d) Adding a new modulation (e.g. EDGE) via software by the grantee and not to units in the field requires a Class II permissive change.
- e) Disabling modulation (e.g. removing GSM): If the device has components on it but is disabled by software or keyboard function, it may be approved under the same FCC Id as the original one. The device with the modulation function disabled by having the parts removed requires approval under a different FCC Id than the original unit.

* Degradation

- i) EMC
 - (a) Any increase in the fundamental emission for output power rated devices is considered a degradation. Section 2.1043 does not allow increase in maximum output power rating without filing of new identifier.
 - (b) Spurious emissions: An increase of up to 3 dB from the original filing is allowed as long as the emission level is compliant.