- option Pulse Generator (R&S SMB-K23) , comprises "Single" and "Double" pulse generation
- option Pulse Train (R&S SMB-K27), enables generation of pulse trains.

As modulation signal, you can either use the signal of the internal pulse generator or an externally supplied signal. In case of external source, the external signal is input via the [PULSE EXT] connector at the rear of the instrument. In case of internal source, this connector can be used as external trigger or gate signal input for internal pulse modulation. The polarity and input impedance of the connector can be selected.

The pulse signal is output at the [PULSE VIDEO] connector at the rear of the instrument.

Automatic Level Control is deactivated with pulse modulation!

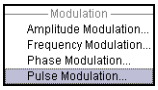
When pulse modulation is activated, the R&S SMB deactivates ALC automatically ("ALC OFF", i.e. switches to "Sample & Hold" state).

The "Sample & Hold" state opens the ALC loop, and disables the automatic control of the output level. The level modulator is set directly.

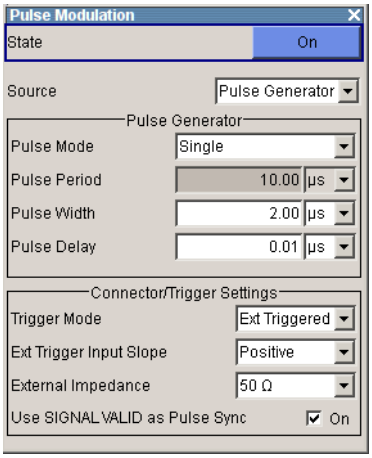
However, to correct the output level, the R&S SMB executes a "Sample & Hold" measurement after each change of frequency or level settings.

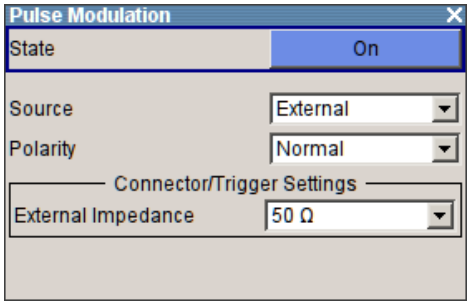
The level is decreased by 30 dB during "Sample & Hold" measurement.

4.4.5.1 Pulse Modulation Settings



► To access the "Pulse Modulation" settings, select "Modulation > config... > Pulse Modulation".





The dialog contains all parameters for configuring a pulse modulation signal, comprising the signal source, pulse generator and trigger settings.

Depending on the selected modulation source, the provided parameters vary:

- "Source Pulse Generator"

Displays the parameters for configuring the pulse generator signal, which in turn vary according to the selected "Mode > Single / Double ...".
Note: Extended features as the generation of double pulse signals or selectable trigger mode require option R&S SMB-K23.

- "External"
  Enables you to configure the polarity of an externally supplied pulse modulation signal.

Additionally, you can use the internally generated *Valid Signal* for synchronization of the pulse modulation, and assign this signal to the [VALID SIGNAL] connector, see Chapter 4.5.4.1, "Pulse Generator Settings", on page 231 for description.

Note: The pulse generator settings in this dialog are mirrored from the actual "Pulse Generator" dialog of the "Mod Gen" block. Therefore find the description on the access and the corresponding parameters under in Chapter 4.5.4.1, "Pulse Generator Settings", on page 231.

Option R&S SMB-K27 enables the generation of pulse trains. For description of the pulse train dialog, see Chapter 4.5.4.2, "Pulse Train Generation", on page 235.

State
Activates pulse modulation.

When the internal modulation source (pulse generator) is selected, the pulse generator is switched on automatically and the video/sync signal is output at the [PULSE VIDEO] output at the rear of the instrument. Signal output can be switched off in the "Pulse Generator" dialog (see Chapter 4.5.4, "Pulse Generator", on page 231).

Remote command:
`[:SOURce<hw>]:PULM:STATe` on page 399

Source
Selects the modulation signal source for pulse modulation.

"Pulse Generator"
Uses the pulse generator as modulation signal source.
Uses the internally generated rectangular signal pulse modulation.

"External"
Uses an externally applied modulation signal.
The external modulation signal is input via the [PULSE EXT] connector.

Remote command:
`[:SOURce<hw>]:PULM:SOURce` on page 398

Polarity
(External Source only)

Selects the polarity of the modulation signal.

"Normal" The RF signal is **On** while the level is high at the modulation input.

"Inverse" The RF level is **Off** if the level is high at the modulation input.

Remote command:
`[:SOURce<hw>]:PULM:POLarity` on page 398