OsmoTRX - Bug #3949

osmo-trx-lms: improve runtime gain setting (missing calibration)

04/23/2019 08:32 AM - roh

Status:	New	**Start date:**	04/23/2019
Priority:	Normal	**Due date:**	
Assignee:		**% Done:**	0%
Category:	LimeSDR		
Target version:			
Spec Reference:			

Description

currently the gain is calibrated to a board specific maximum value.

all attenuation changes happening after that do not start a new filter/gain calibration which means that lower levels/runtime settings max not have the same rf performance.

gain calibration is important for linearity and also takes care of things like i/q balance/dc offset.

since calibration can not happen while a stream is running on limesuite this would require doing a 'calibration table' on startup and caching the resulting register values to be set on runtime.

```
It can be done using functions from LimeSuite.h . You can save and load
LMS chip registers using LMS_ReadLMSReg() and  LMS_WriteLMSReg()
functions. We can make you a list of registers that need to be
saved/loaded if you are going to implement calibration value cache for
various Tx gain level values. As far as I know, there is no difference
between boards as calibration values are configured in LMS7 chip and all
LimeSDR boards have the same chip.
```