Architecture_Overview Name: Package: Measurement_System_Embedded_Software Version: 1.1 Author: Thomas Batt «Software_Layer» «Software_Library» «Software_Layer» Measurement_Application Library System_Management + State_Machine + ApplicationManager + Measurement_Application_main «Software Subsystem» «Software Subsystem» + SystemManager + Measurement_Controller «Software_Library» Measurement_Controller Measurement + Measurement State_Machine + Measurement + MeasurementController + State + VoltageMeasurement + MeasurementController_Events \Rightarrow + StateMachine + CurrentMeasurement + StateMachineGlobals + ResistanceMeasurement «Software_Layer» Hardware_Device_Abstraction + DeviceAbstractionManager + AnalogMeasurement «Software_Subsystem» «Software_Subsystem» «Software_Subsystem» + UserIndication AnalogMeasurement UserInput UserIndication + UserInput + AnalogMeasurement + UserInput + UserIndication **←O** + I_AnalogMeasurement **→** + I_UserInput **→** + I_UserIndication **←O** + I_AnalogMeasurement_Config •• + I_UserInput_Config •• + I_UserIndication_Config **←O** + ICB_AnalogMeasurement «Software_Layer» Hardware_Device_Driver + DriverManager + Board_Driver «Software_Subsystem» «Software_Subsystem» «Software_Subsystem» + Microcontroller_Driver Microcontroller_Configuration Microcontroller_Driver Board_Driver + Microcontroller_Configuration + I_NVIC_Dispatcher_Types + I_Button_Types + STM32F7xx •• + I_NVIC_Dispatcher_Config ⊶O + I_Button ••O + ICB_ServiceInterrupt **→** + I_Button_Config + STM32F7xx **⊶** + I_LED «Software_Subsystem» → + I_LED_Config STM32F7xx + STM32F7xx_NUCLEO_144 + stm32f7xx_hal_conf «Software_Subsystem» «Software_Subsystem» + stm32f7xx_hal_msp STM32F7xx_NUCLEO_144 STM32F7xx + stm32f7xx_it

+ HAL_Driver

+ NVIC_Dispatcher

+ Button

+ LED

+ stm32f7xx_setup

+ MDK-ARM

+ system_stm32f7xx