G55 xPro - Pins (I2S breakout)

Friday, October 05, 2018 3:15 PM

PIN MANAGER

G55 xPro - Pins (I2S) - Spreadsheet

NAME	PORT	PIN	EXT-PIN	Notes
	VDDIO	1		
	NRST	2		
	PB12	3		
I2SMCK0	PA04	4	I2C Conn-6(TWCK0)	I2SC0 MCLK, I2C0 CK
I2SDO0	PA03	5	I2C Conn-7(TWD0)	I2SC0 DO, I2C0 D
I2SCK0	PA00	6		I2SC0 BCLK
I2SWS0	PA01	7	EXT3-7(TIOB0-PWM+), I2C Conn-2(NCHG, TIOB0)	I2SC0 LRCK
	PA05	8		
	VDDCORE	9		VBUS_DET (USB)
	TEST	10		USB_VBUS_SENSE: GPIO IN PULL-DWN
	PA07	11		
	PA08	12		
	GND	13		
	PB15	14	EXT3-6(GPIO)	
	PB14	15	EXT4-9	
	PA31	16		
LED	PA06	17		LED_AL - Out - Low
	PA16	18		
	PA31	19	EXT4-5	
	PA29	20		
	PA28	21		
	PA15	22	EXT3-(GPIO,WKUP13)	
I2SDO1	PA23	23	EXT1-7(TIOA1)	I2SC1 DO
UHP_DP, I2SDI1	PA22	24		Target USB, I2SC1 DI
UHP_DM	PA21	25		Target USB
	VDDUSB	26		
	VDDIO	27		
	ADVREF	28		
	GND	29		
	VDDOUT	30		
	VDDIO	31		
	VDDIO	32		
	PA17	33	EXT1-3(AD0)	
PCK2	PA18	34	EXT1-4(AD01)	I2SC0 MCLK
I2SCK1	PA19	35	EXT3-3(AD2)	I2SC1 BCLK
I2SWS1	PA20	36	EXT3-4(AD3)	I2SC1 LRCK
	PB00	37		
	PB01	38		
	PB02	39		
	PB03	40	EXT3-9(WKUP13, IRQ/GPIO)	
	PA14	41		
	PA13	42		
	PA12	43		
	PA11	44		
	VDDCORE	45		
	PB10	46	EXT1,EXT4-11 (TWD4)	EDBG
	PB11	47	EXT1,EXT4-12(TWCK4)	EDBG
	PA10	48		
	PA09	49		
	PB05	50		
	PA27	51		
I2SMCK1	PA26	52	EXT1-(GPIO UART0 RTS)	I2SC1 MCLK
	GND	53		
	PB06	54		
	PB07	55		
	PA25	56		
	PB13	57	EXT3-9(GPIO, PWM-)	
	PA24	58		
	PB08	59	EXT3- 11(TWD6)	TW6_SDA (I2C6_DA)
	PB09	60	EXT3-12(TWCK6)	TW6_CK (I2C6_CK)

	PA24	58		
	PB08	59	EXT3- 11(TWD6)	TW6_SDA (I2C6_DA)
	PB09	60	EXT3-12(TWCK6)	TW6_CK (I2C6_CK)
SWITCH	PA02	61		SWITCH_AL - In - Low
USB_VBUS_SENSE	PB04	62		GPIO - In - PullDown
	JTAGSEL	63		
	PB09	64		VBUS_DET (USB)

X32 AK4954 SIGNALS - I2SC0/I2C6

SIGNAL	Connector/Pin	G55 Signal	G55 Port(Pin)	EXT - Pin	*CONFLICTS*
GND	J1-1	GND	-	EXT3-1	-
GND	J1-2	GND	-	EXT3-2	-
	J1-3				
	J1-4				
	J1-5				
	J1-6				
I2C SCL1	J1-7	TWCK6	PB09(60)	EXT3-12	XIN (NOTE 2)
STBY/RST	J1-8	GPIO	PA26()	EXT1-5	-
I2C SDA1	J1-9	TWD6	PB08(59)	EXT3-11	XOUT (NOTE 2)
I2S LRCL	J1-10	I2SWS	PA01(7)	I2CC-2	HOST_I2C (TIOB0-NCHG) (NOTE 1)
I2S SDI	J1-11	I2SDI0	PA02(61)	Solder to R304	SWITCH (NOTE 3)
I2S BCLK	J1-12	I2SCK1	PA00	EXT3-7	PWM+ (unused)
I2S SDO	J1-13	I2SDO	PA03(5)	I2CC-7	HOST_I2C (I2C_SDA) (NOTE 1)
I2S MCLK	J1-14	I2SMCK0	PA04(4)	I2CC-6	HOST_I2C (I2C_SCL) (NOTE 1)
	J1-15				
	J1-16				
+9V	J1-17	-	-	-	-
+3.3V	J1-18		VCC...P3V3	EXT1-20	-
+9V	J1-19	-	-	-	-
+5V_PD	J1-20	-	-	-	-

TEST SIGNALS (OUT)

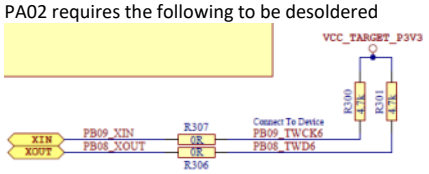
J506-1 - TEST1 - PA02 (93)
TEST2 - PC19 (117)

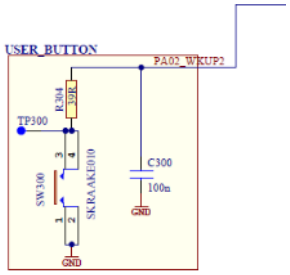
Signal	Connector/Pin	E70 Port	E70 Pin
TEST1			
TEST2			
TEST3			
TEST4			
TEST5			

Clock Manager

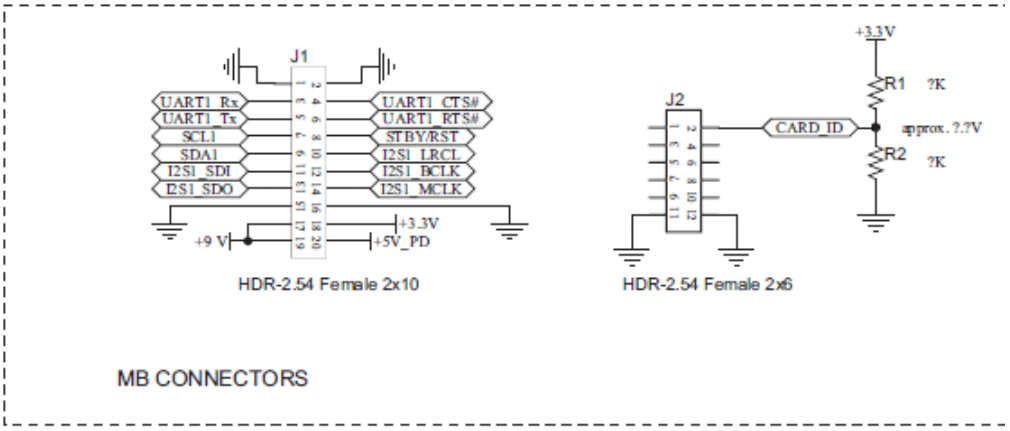
- NOTE(s):

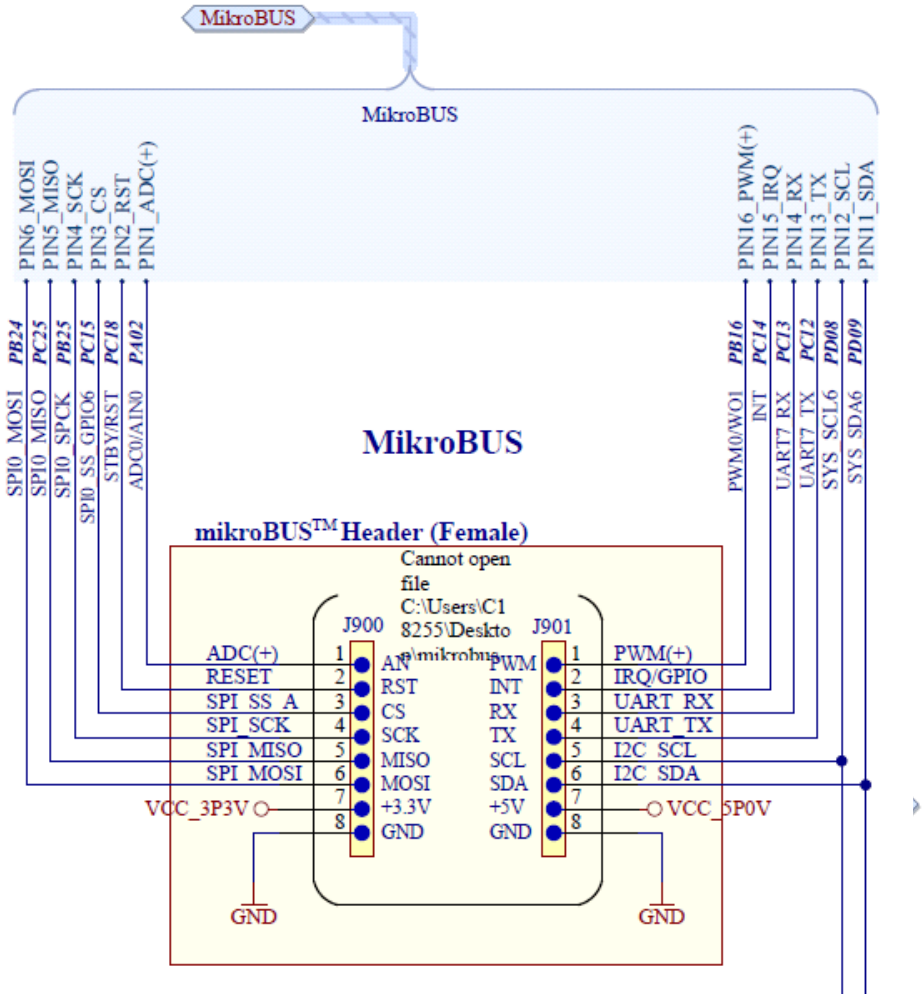
1. I2CC is the connector for the high speed HOST_I2C, which is unused.
2. PA02 requires the following to be desoldered





3. The Switch is required to mute and control volume.


J1
UART1_Rx
UART1_Tx
SCL1
SDA1
I2S1_SDI
I2S1_SDO
UART1_CTS#
UART1_RTS#
STBY/RST
I2S1_LRCL
I2S1_BCLK
I2S1_MCLK
+9 V
+3.3V
+5V_PD
HDR-2.54 Female 2x10
J2
CARD_ID
+3.3V
R1
?K
approx. ?.?V
R2
?K
HDR-2.54 Female 2x6
MB CONNECTORS


MikroBUS
MikroBUS
PIN6_MOSI
PIN5_MISO
PIN4_SCK
PIN3_CS
PIN2_RST
PIN1_ADC(+)
PIN16_PWM(+)
PIN15_IRQ
PIN14_RX
PIN13_TX
PIN12_SCL
PIN11_SDA
PB24
PC25
PB25
PC15
PC18
P402
PB16
PC14
PC13
PC12
PD08
PD09
SPI0_MOSI
SPI0_MISO
SPI0_SPCK
SPI0_SS_GPIO6
STBY/RST
ADC0/AIN0
PWM0/WO1
INT
UART7_RX
UART7_TX
SYS_SCL6
SYS_SDA6
MikroBUS
mikroBUS™ Header (Female)
Cannot open file C:\Users\C18255\Desktop\mikrobus
J900
J901
ADC(+)
RESET
SPI_SS_A
SPI_SCK
SPI_MISO
SPI_MOSI
VCC_3P3V
AN
RST
CS
SCK
MISO
MOSI
+3.3V
GND
PWM
INT
RX
TX
SCL
SDA
+5V
GND
PWM(+)
IRQ/GPIO
UART_RX
UART_TX
I2C_SCL
I2C_SDA
VCC_5P0V
GND
GND

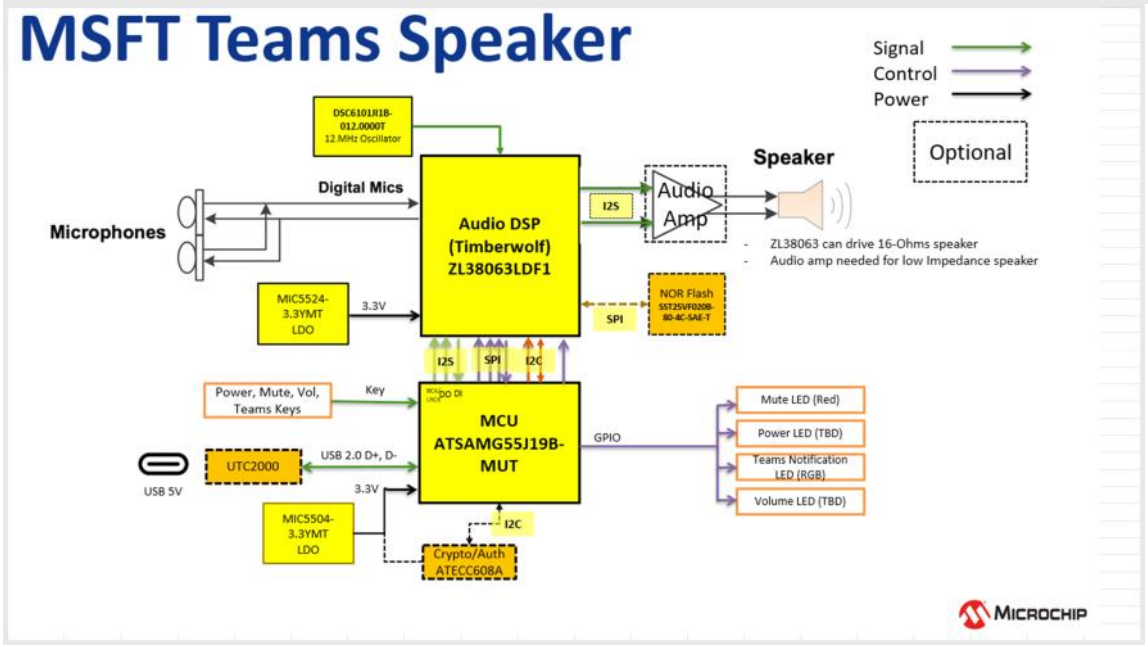
USB Headset Audio Demo Feature Requests

Friday, July 31, 2020 11:51 AM

USB Headset Audio Demo Feature Requests - 2020_CAL_...

USB Headset Audio Demo Feature List

No.	Feature Name	Description	Req Type (Mandatory/ Optional)	Plan2Support (Yes/No)	Status (Done/Devlopin g/Progressing)	Comment
1	USB DEVICE auido	Can connect to a USB Host (such as a personal computer, Android phone, etc...)	Mandatory	Yes		Only tested on Windows 10
2	USB Audio 1.0/2.0/3.0 compliant	UAC 3.0: https://www.usb.org/document-library/usb-audio-devices-rev-30-and-adopters-agreement	Mandatory	Yes		USB Audio 1.0
3	Auido sample rate	48K audio sample rates by default	Mandatory	Yes		
		44.1K/32K/16K(configurable or build option); 16K has higher priority than 32 or 44.1.	Optional	No		16Khz
4	Audio data width	16bit	Mandatory	Yes		
		24bit (configurable or build option)	Optional	No		
5	Dual Channel audio stream	stereo audio: recording can be single channel, but playback MUST dual channel	Mandatory	Yes		Mono Record
6	bi-directional audio stream at the same time	Conf-call/skype/teams etc... need both audio in and auido out at the same time	Mandatory	Yes		
7	HID device with buttons	Audio control and sync: volume +/-, pause & play, Next & Back, etc...	Mandatory	Yes		Using 4 button interface Volume+ (mute)/Volume-(mute)/Next/Prev(rewind)
8	Microsoft Teams ASP compability	Device shall full compatible with Teams Accessory Signaling Protocol(ASP). It use the HID profile to pass ASP commands. Refer to Teams specification for detail information.	Mandatory	No		Only standard HID Audio Control protocol, but could be extended later
9	Microsoft Teams notification	Device should support Teams notification (Upcoming scheduled meeting, missing income call, etc)	Mandatory	No		Don't know about this
10	Firmware upgrade via USB HID	a.Anti-spoofing The image to be updated will be authenticated. The images without valid signature will be rejected. b.Silent update through Windows Update (WU) The driver and bundled firmware image are pushed to the hosts via WU automatically. There shall be no interaction with user to have the device updated. c.Fail-safe The device shall support fail-safe mechanism, e.g., dual bank. It shall never brick the device in case the firmware update is interrupted by any reason. d.No service impacts When the device is being updated, it shall not interrupt the function/service.	Optional	No		
11	USB composite device support with build option	USB audio class only(best to have individual build option for below options): - USB speaker only - USB microphone only - USB microphone + speaker	Mandatory	Most		Did not plan to add HID to USB mic, or implement on G55
		USB audio class + HID	Mandatory	Yes		
		USB audio class + CDC	Optional	No		CDC is used for codec/dsp tuning/configurations/fw upgrading, etc...
12	Q-Touch buttions	SW based Q-Touch for buttonsn	Optional	No		



USB Audio SSOs - Requirements

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USB Audio(H3) SSOs-4

USB Audio

Region	City	Customer	Application	First CPN	Alternative CPN	EAU (K/Yr	Funnel Stage	Status	DFAE	AE
S.China	Shenzhen	A&D (Tymphany)	conference speaker for MS-Teams	SAMG55	SAMD21	80	3 - system definition	need USB Audio and HID		Simon Huang/Diffin
TW	Taibei	Microsoft/Foxlin	teams conference speakers	SAMG55/D51		300	3 - system definition	USB audio lib and bootloader		
S.China	Shenzhen	A&D (Philips)	Conference Call Speaker	SAMG55	SAMD21	20	3 - system definition	Need USB-Audio lib.		Simon Huang/Diffin
S.China	Shenzhen	Grandsun	conference speaker for MS-Teams	SAMD51/E5x	SAMG55	100	3 - system definition	need USB Audio and HID		Simon Huang/Diffin
Taiwan	Taipei	Jazz Hipster	Conference Call System	PIC32MX230F128	SAM deivice could be accepted	20	1 - define needs	Need H3 USB Audio, I2S library	Burn Keiffer	
Taiwan	Taipei	Meiloon	BT Speaker System	PIC32MX2, PIC32MX4		50	3 - system definition	Need H3 USB Audio to promote new platfrom such as with BT, Timberwolf.	WFE Spring	
Japan	Tokyo	Ricoh	Conference Call System	ZL38090/SAMG55		30	3 - system definition	A proposal with SAMG55+ZL38063 is under discussing		
S.China	Shenzhen	Tenveo	Conference Call System	ZL38090/SAMG55		60	1 - define needs	We lost it due to two chips solition is not cost effective. We need ZL38090 for USB audio I/F and ZL38063 for voice processing. Competitot use one chip for USB and voice processor. And it needs an additional MCU for UI control.		Diffin

Name	Disty name	Role	Region	Covered are	What he/she good at?	Rate	recommended tech direction/trainings
Hans Yao	Infortech	FAE	E. China	E.China			MPU 板
JW Chen	Burnon	FAE	E. China	E.China	MPU Linux		MPU 板
Eddie peng	Weikeng	FAE	E. China	E.China			MCUboard
Woolf Zhou	Promaster	FAE	N. China	N. China	MCU32 (PIC32+MCT32)		MCUboard
Vivian Xiao	Promaster	FAE	S. China	ShenZhen			MCUboard
Xueliang Wu	CEAC	FAE	S. China	S.China	MPU + MCU32	6	MCUboard, MPU, Linux, Graphics, driver
Perry Peng	CECP	FAE	W. China	WH, ZZ	MPU + MCU32	7	MCUboard
Oliver Lin	WFE	DFAE	Taiwan	Taiwan, Sou	PIC32		MPU 板