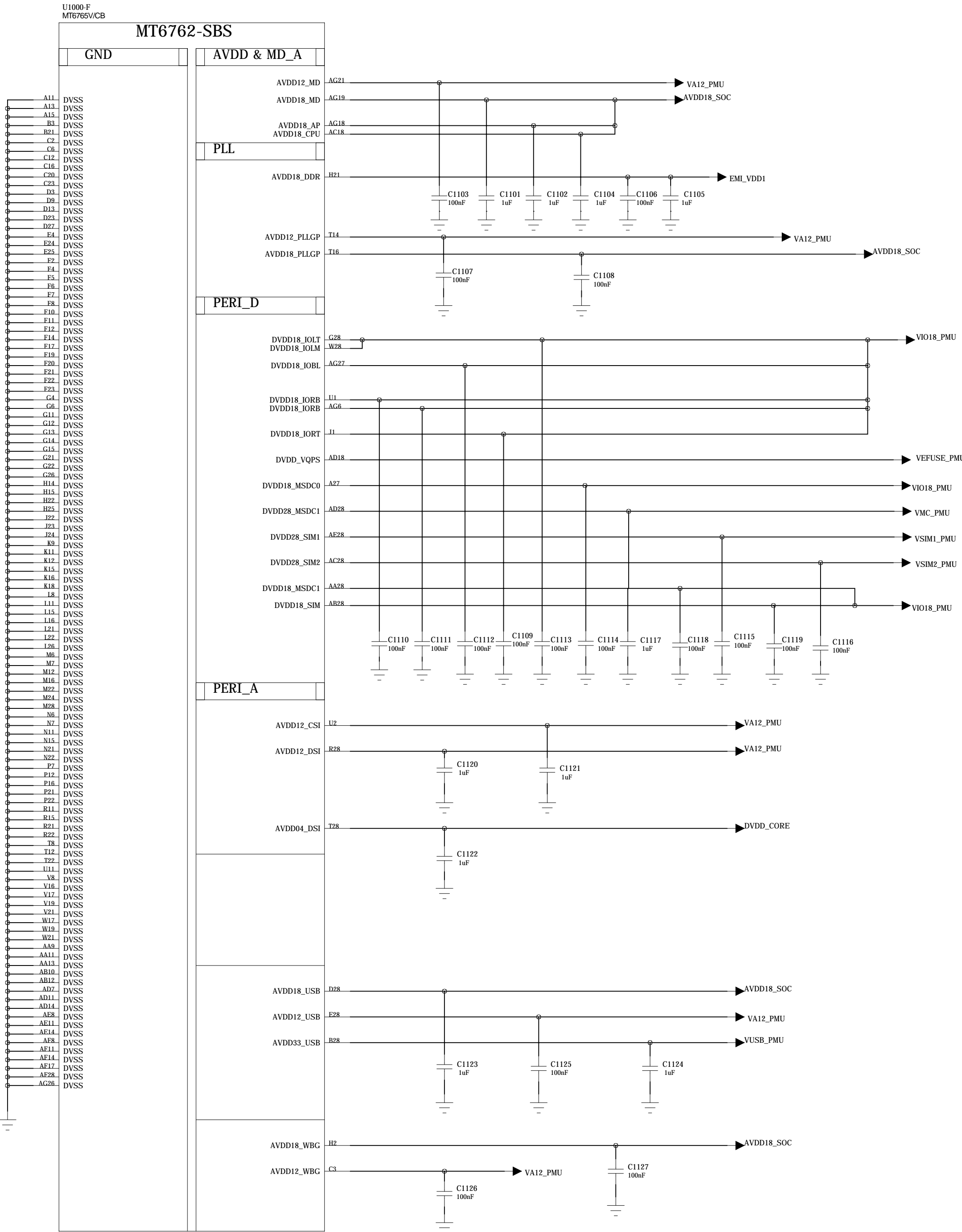


REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:



Schematic design notice of "11_BB_POWER_IO" page.

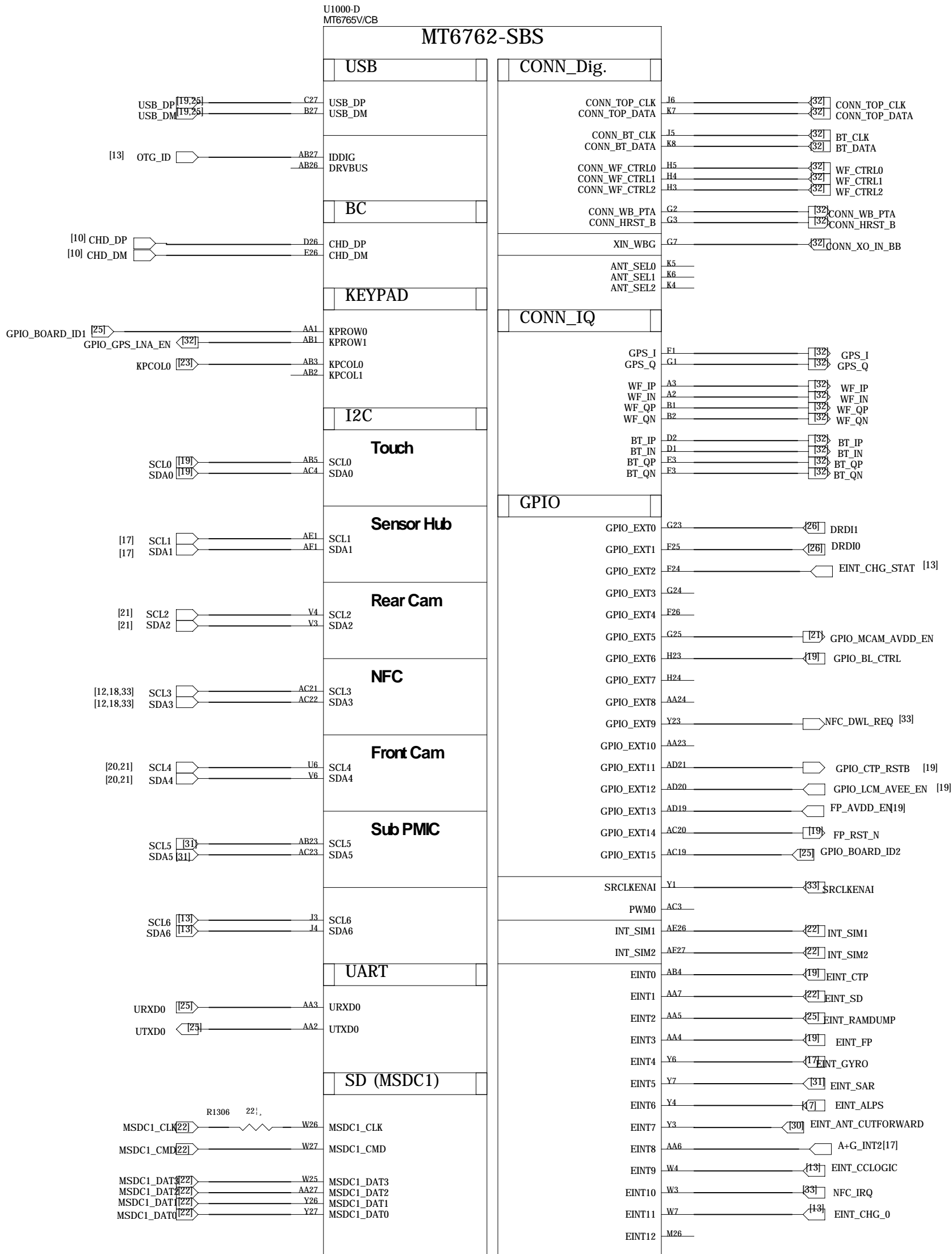
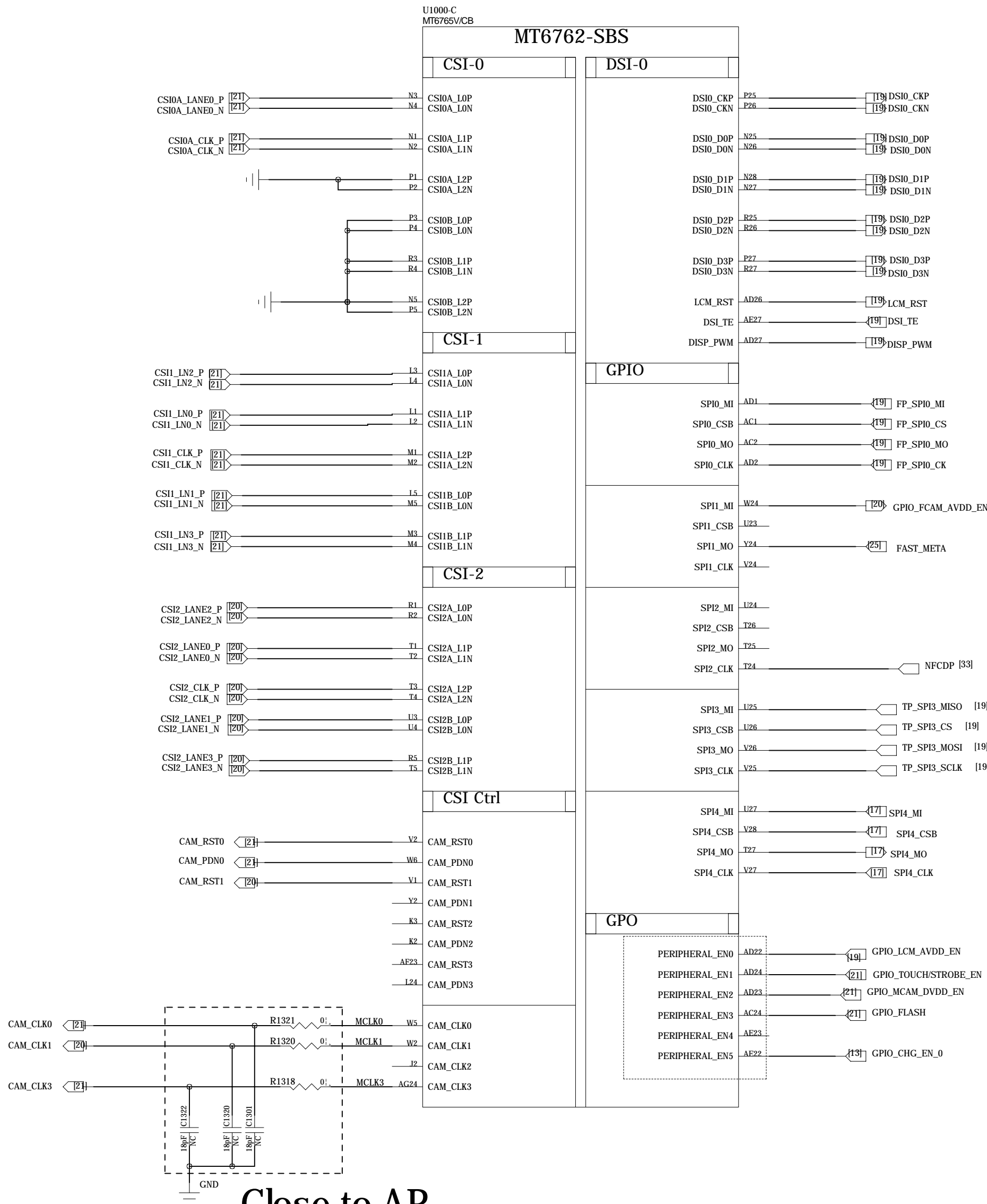
Note 11-1: C4101 closed DVDD18_MSDC0 150mil

Note 11-2: C4302 closed DVDD28_MSDC1 150mil

Note 11-3: C4301 closed DVDD18_MSDC1 150mil

DRAWN: Marshall		DATED: 2018-09-22A		COMPANY: Tinno			
CHECKED: <Checked By>		DATED: <Checked Date>		TITLE: MT6765			
QUALITY CONTROL: <QC By>		DATED: <QC Date>		CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
RELEASED: <Released By>		DATED: <Release Date>		SCALE: <Scale>			SHEET: 3f 33

REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:

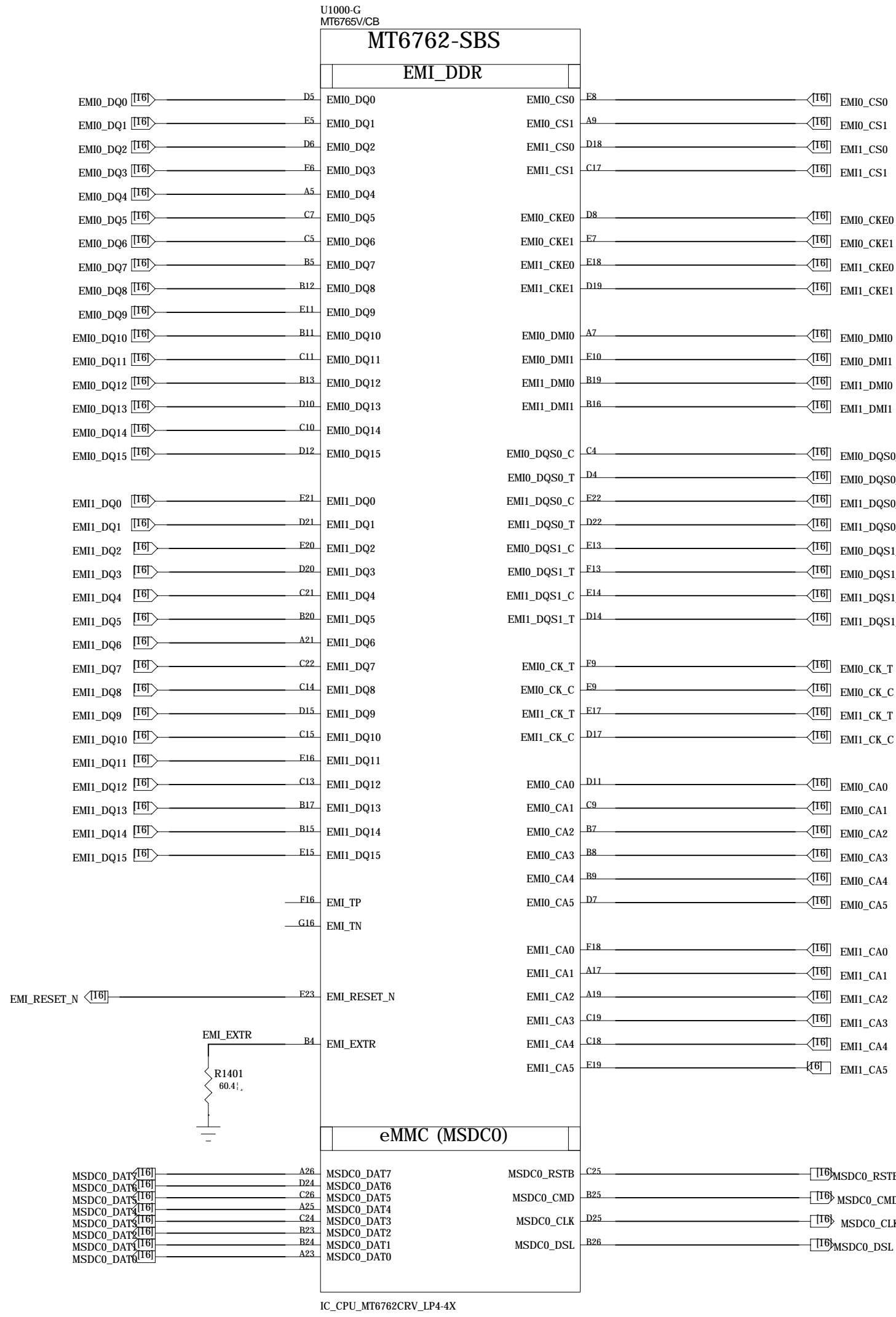


Schematic design notice of "13_BB_2" page.

Note 13-1: The enable pin of acoustic or optoelectronic devices (e.g. SPK AMP/Backlight/Charger OCP/OVP) suggest to use Peripheral_EN[0:5]
If use other GPIOs as enable pin, suggest to reserve 0201 NC to GND

COMPANY: Tinno			
TITLE: MT6765			
DRAWN: Marshall	DATED: 2018-09-22A	CODE: P411	SIZE: D
CHECKED: <Checked By>	DATED: <Checked Date>	DRAWING NO: P411	REV: V1.2
QUALITY CONTROL: <QC By>	DATED: <QC Date>	SCALE: <Scale>	
RELEASED: <Released By>	DATED: <Release Date>	SHEET 5f 33	

REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:



Schematic design notice of "14_BB_3" page.

Note 14-1: R4001 please select 60.4 ohm (1%) resistor

Note 14-2: Please check eMCP LP3 and eMCP LP4X/LP4 pin mux

COMPANY: Tinno			
TITLE: MT6765			
CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
SCALE: <Scale>		SHEET: 6f 33	

DRAWN: Marshall	DATED: 2018-09-22A
CHECKED: <Checked By>	DATED: <Checked Date>
QUALITY CONTROL: <QC By>	DATED: <QC Date>
RELEASED: <Released By>	DATED: <Release Date>

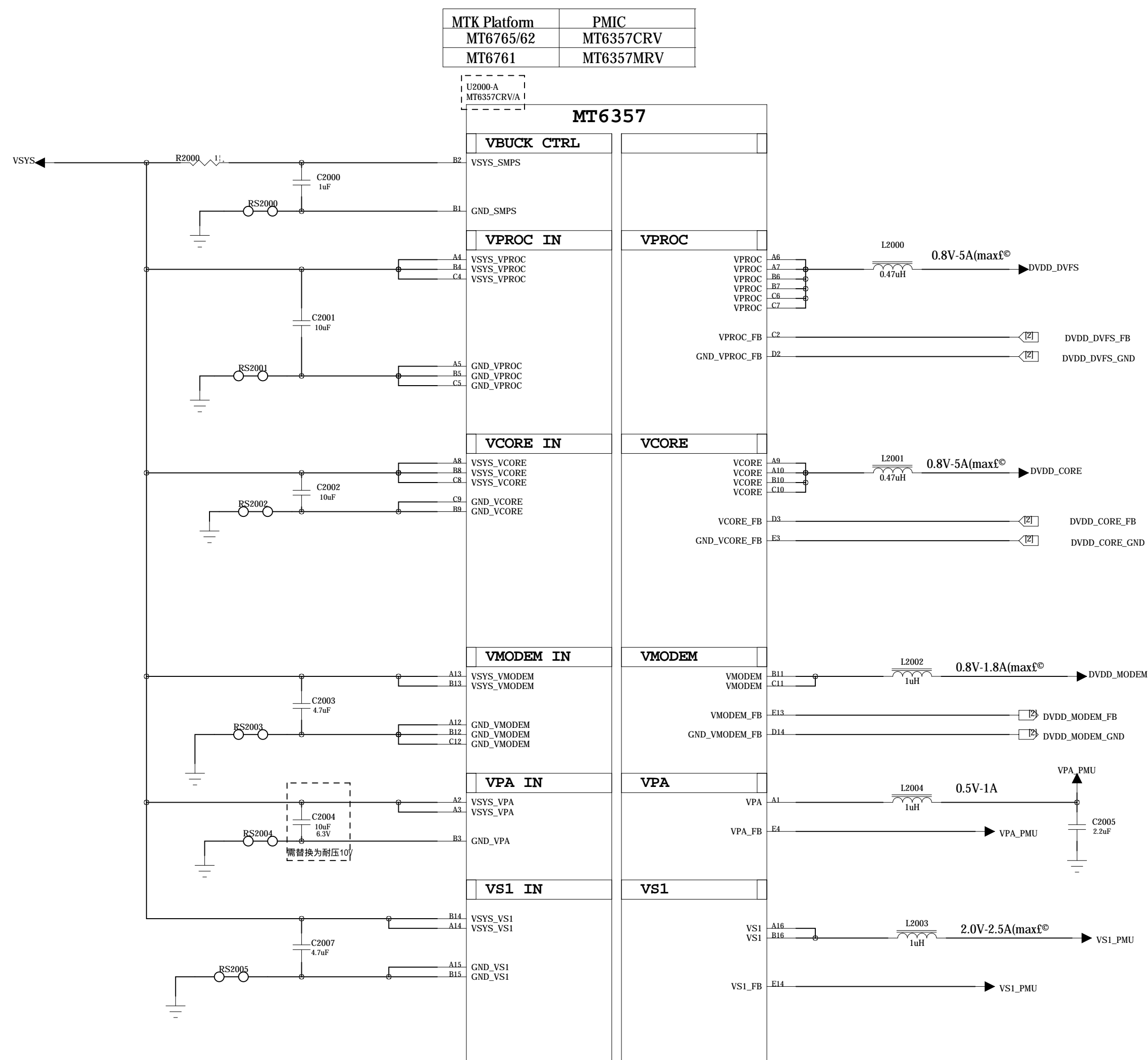
Schematic design notice of "20_POWER_MT6357_Buck"

Note 20-1: C2005, please choose 0402 size

Note 20-2: PMIC Part number notice for MT6765/62/61 platform

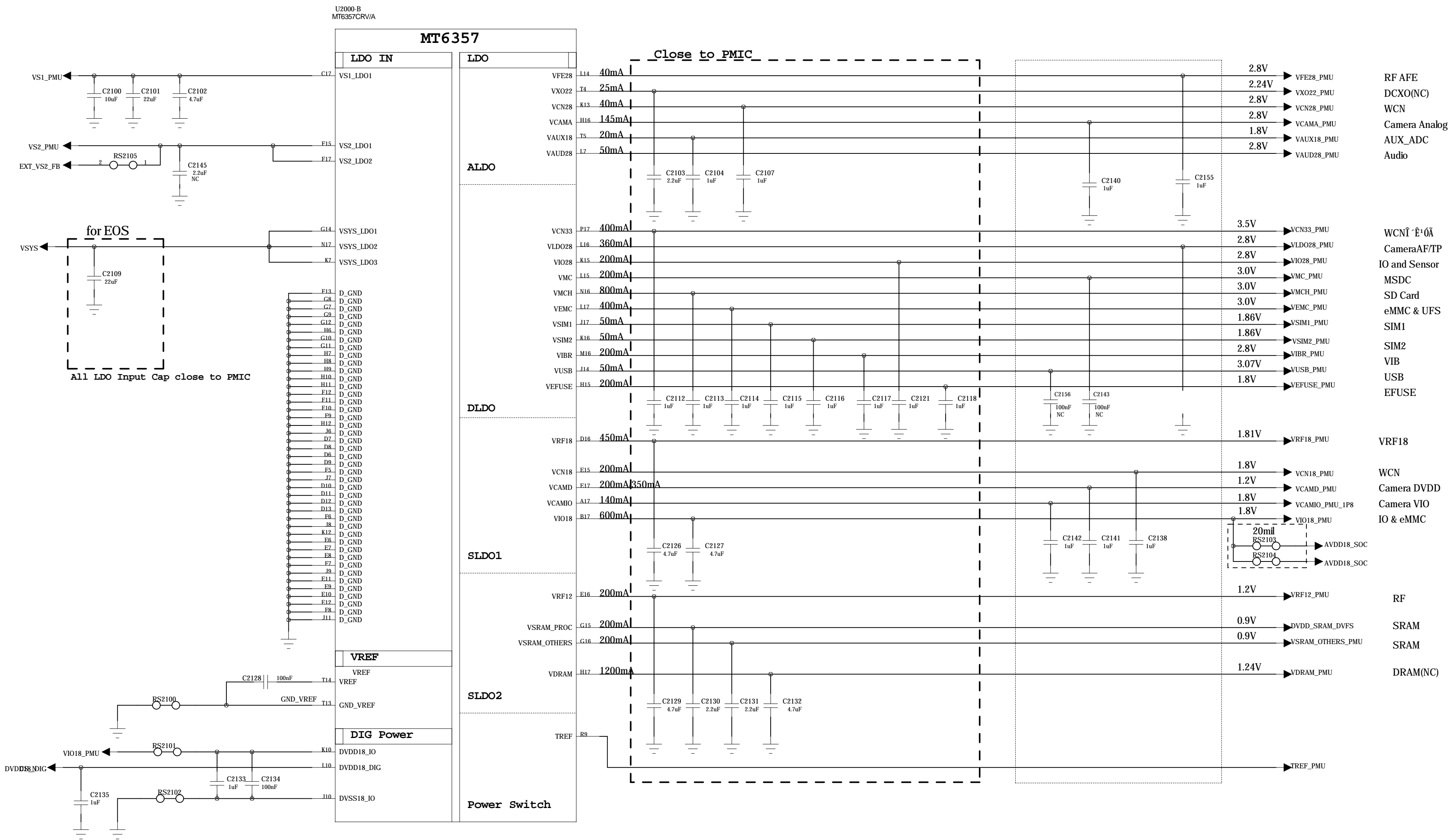
MTK Platform	PMIC
MT6765 / 62	MT6357 CRV
MT6761	MT6357 MRV

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

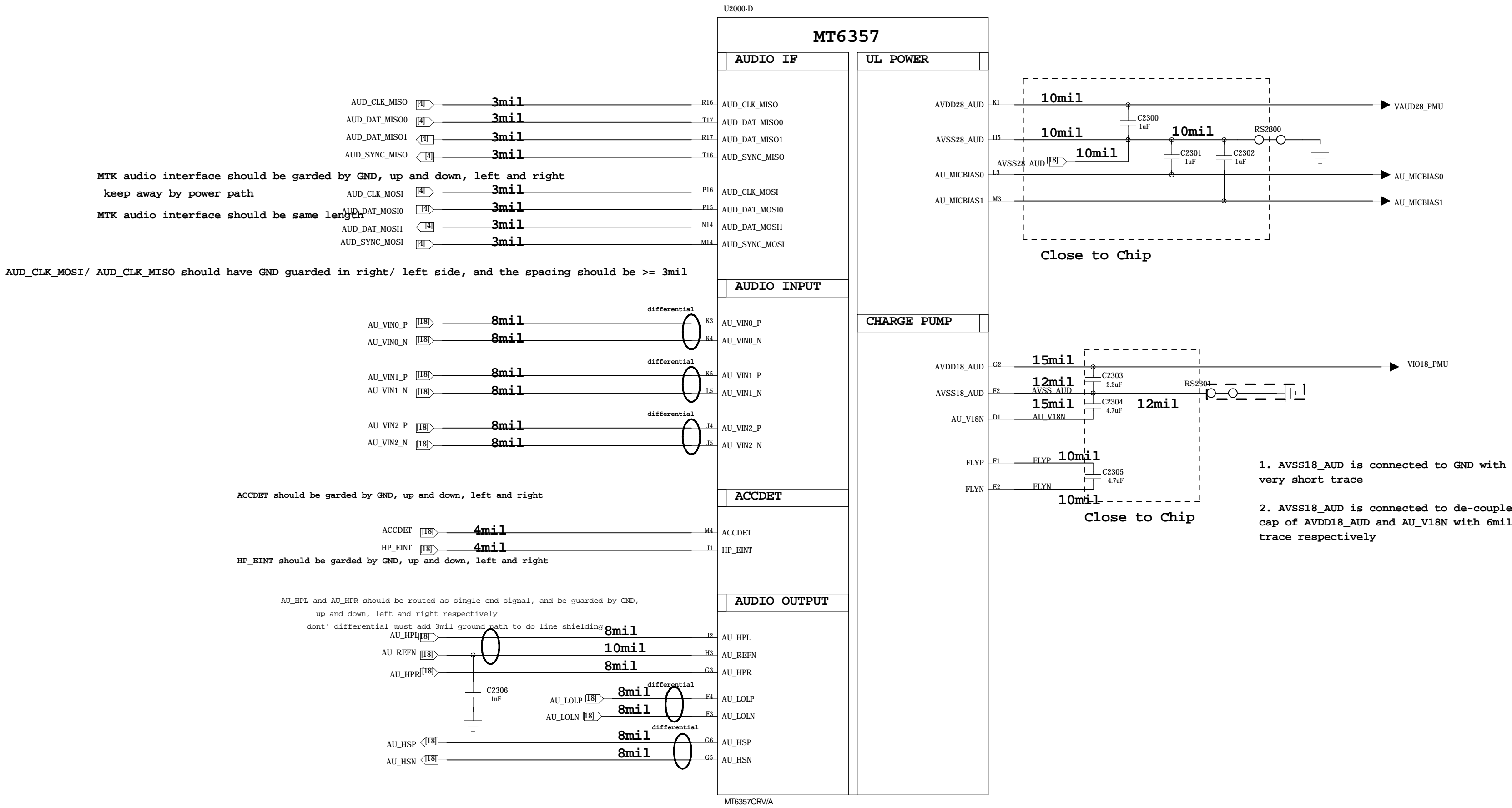


DRAWN: Marshall		DATED: 2018-09-22A		M16/65			
CHECKED: <Checked By>		DATED: <Checked Date>		CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
QUALITY CONTROL: <QC By>		DATED: <QC Date>					
RELEASED: <Released By>		DATED: <Release Date>					
SCALE: <Scale>				SHEET: 86		33	

REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:



REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:



		COMPANY: Tinno					
		TITLE: MT6765					
DRAWN: Marshall		DATED: 2018-09-22A					
CHECKED: <Checked By>		DATED: <Checked Date>		CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
QUALITY CONTROL: <QC By>		DATED: <QC Date>					
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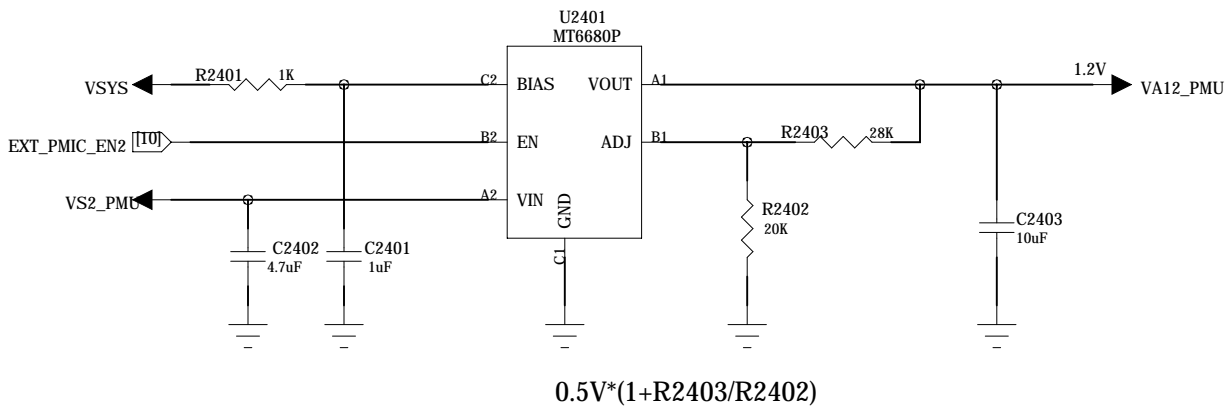
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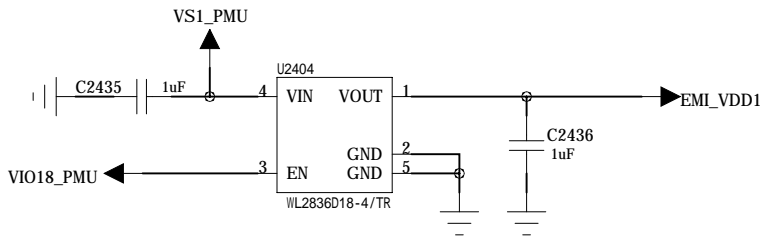
REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:

LDO for VA12

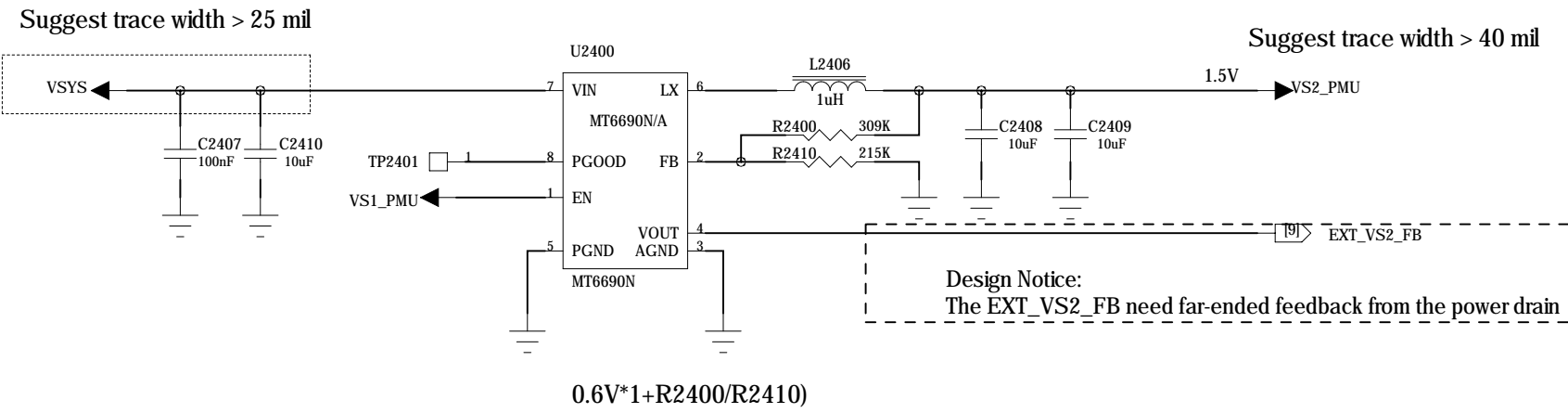


LPDDR4X VDD1 1.8V LDO

Suggest trace width > 20 mil



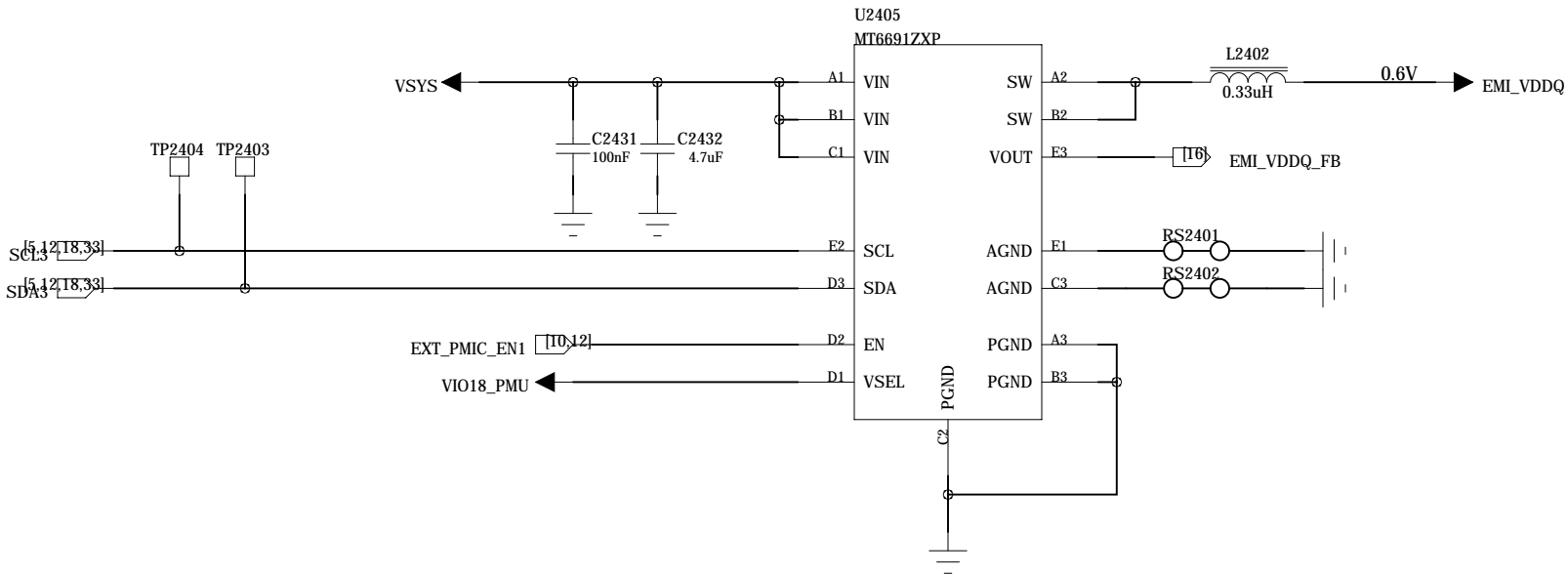
Ext. Bulk for VS2
For Low Power Performance



Ext. buck LP4/4X VDDQ 1.125V/0.6V

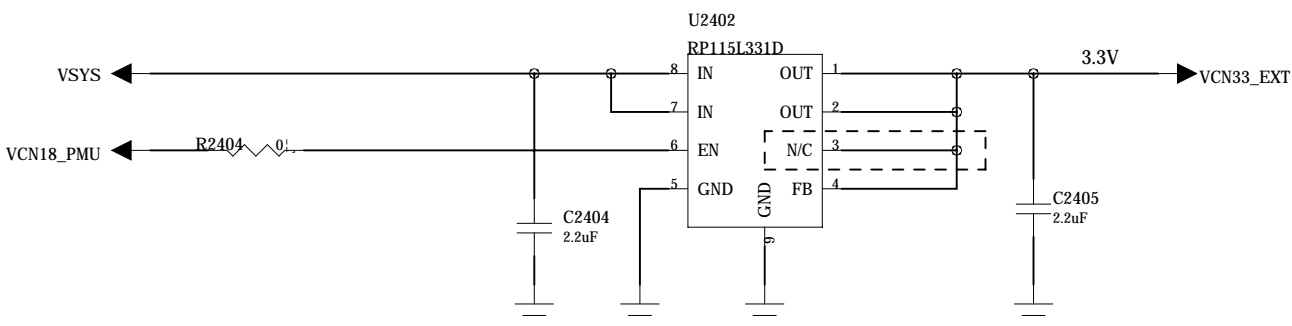
If use LPDDR4, NC U2802 and peripheral components
MT6691ZXP/A / Ext. buck LP4X VDRAM(VDDQ)
I2C address: 0x50 (Write:0xA0, Read:0xA1)

Suggest trace width > 25 mil



LDO for VCN33

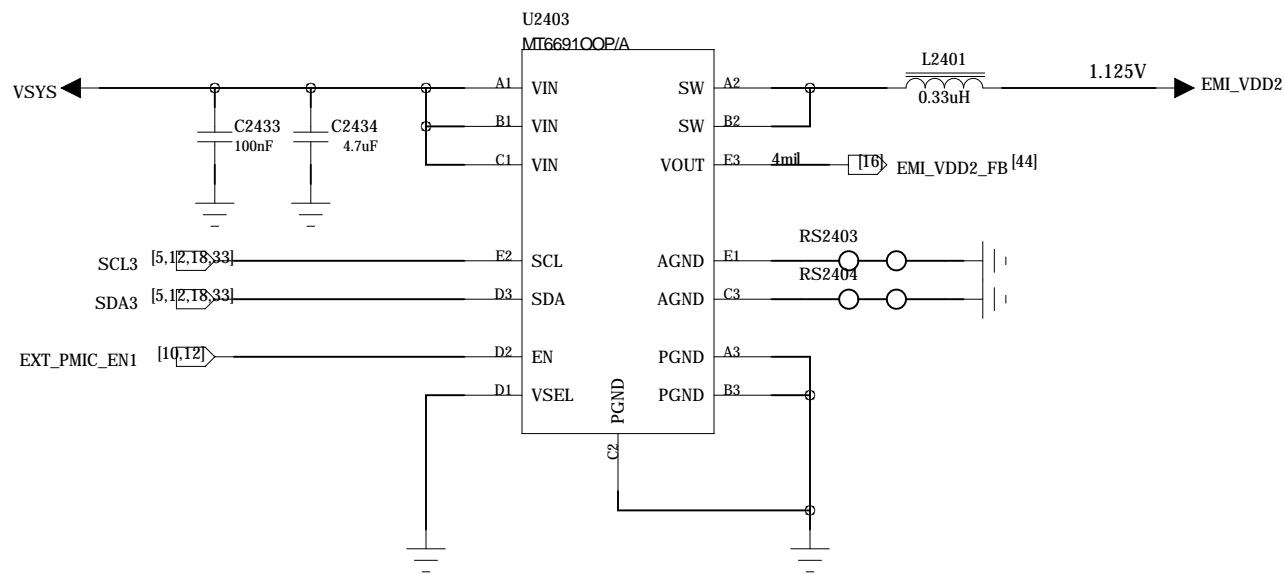
Suggest trace width > 25 mil



Ext. buck LP4/4X VDD2 1.125V

MT6691OOP/A / Ext. buck LP4X VDRAM (VDD2)
I2C address: 0X57 (Write:0xAE, Read:0xAF)

Suggest trace width > 50 mil



Schematic design notice of "28_POWER_ThirdParty-Power"

Note 28-1: VA12 Layout placement please close to AP

Note 28-2: VS2 Buck Layout placement please close to PMIC MT6357

Note 28-3: VCN33 LDO Layout placement please close to MT6631

Note 28-4: MT6691ZXP/A and MT6691OOP/A Buck Layout Placement please close to LPDDR4X

Note 28-5: U2810 LDO Layout Placement Please close to LPDDR4X VDD1 power ball

Note 28-6: For EML_VDD2_FB and EML_VDDQ_FB, please follow MMD rule

Schematic design notice of "28_POWER_ThirdParty-Power"

Note 28-1: VA12 Layout placement please close to AP

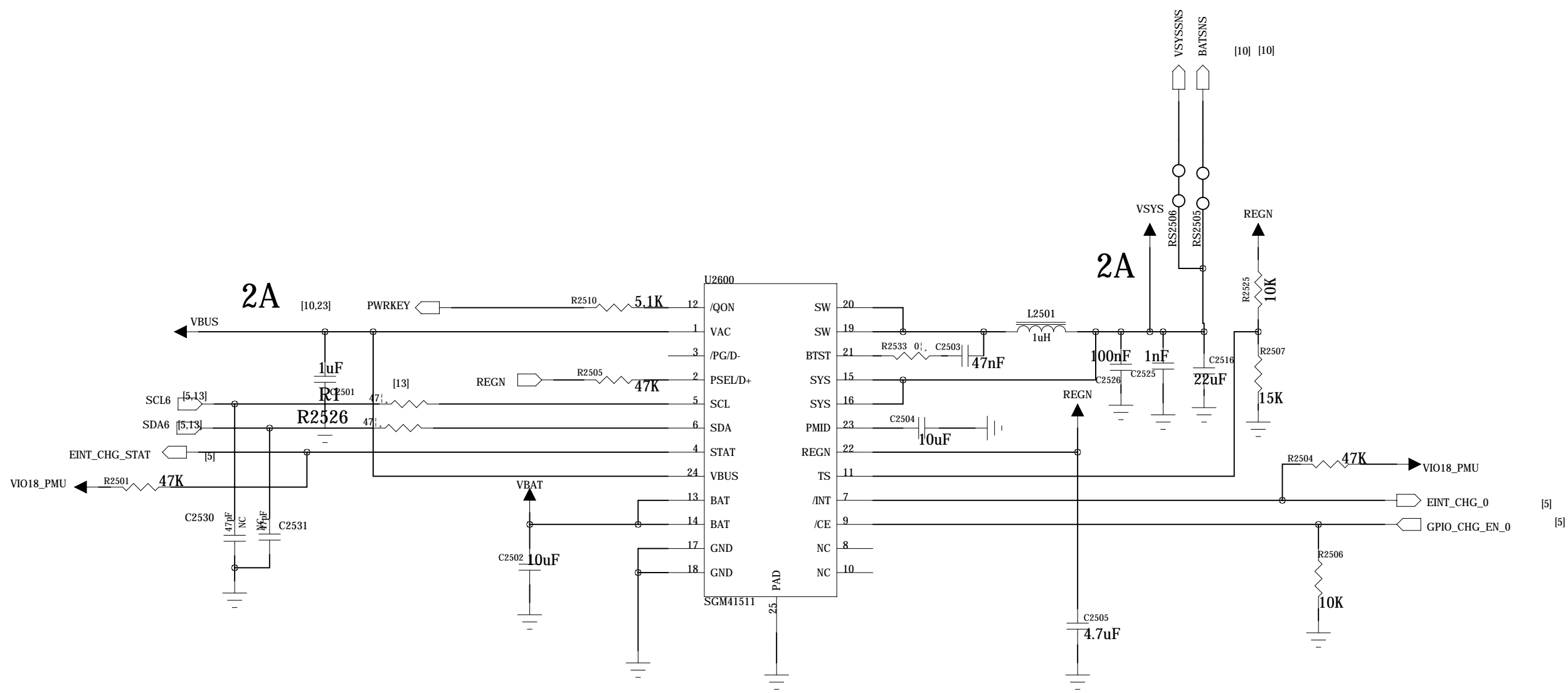
Note 28-2: VS2 Buck Layout placement please close to PMIC MT6357

Note 28-3: VCN33 LDO Layout placement please close to MT6631

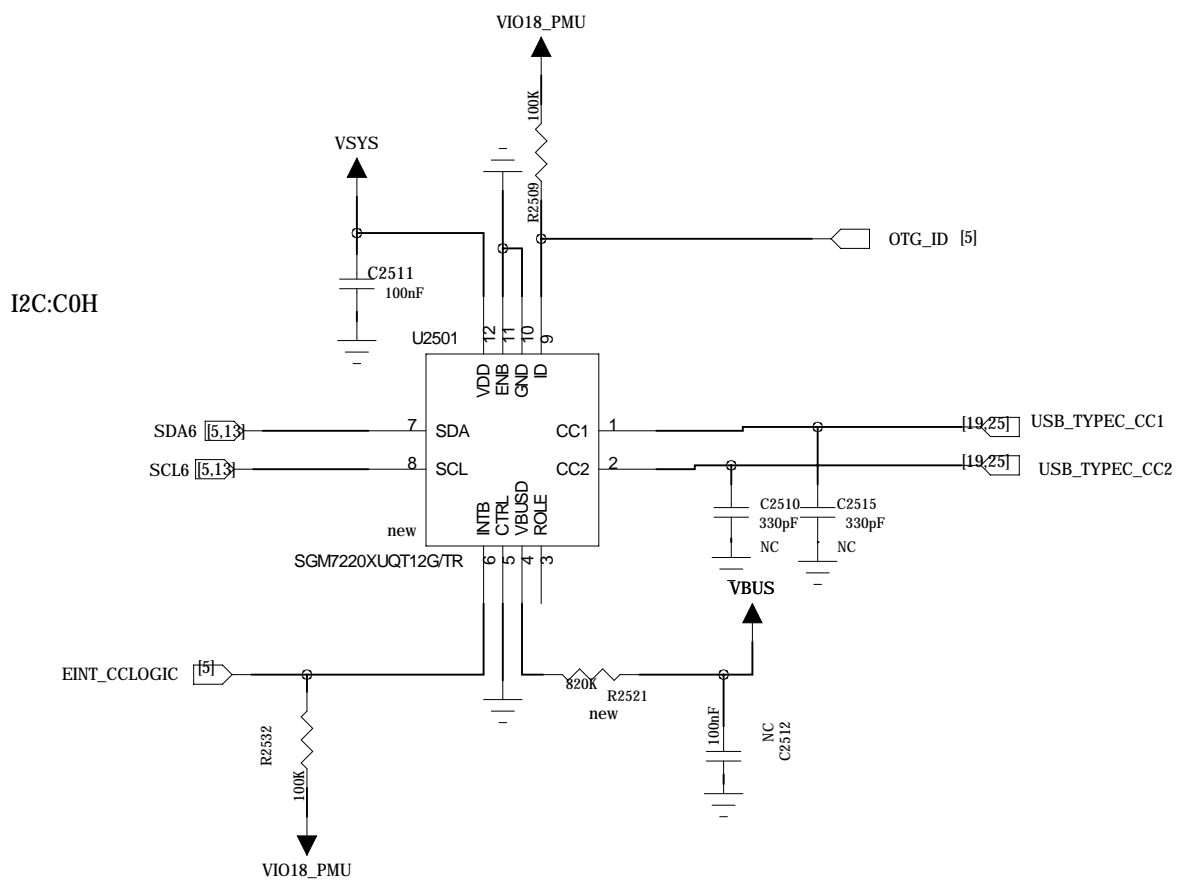
COMPANY: Tinno			
TITLE: MT6765			
CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
SCALE: <Scale>		SHEET 42 33	

DRAWN: Marshall	DATED: 2018-09-22A
CHECKED: <Checked By>	DATED: <Checked Date>
QUALITY CONTROL: <QC By>	DATED: <QC Date>
RELEASED: <Released By>	DATED: <Release Date>

REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE



I2C ADDR:0x6B



I2C:COH

COMPANY: Tinno

TITLE: MT6765

DRAWN: Marshall	DATED: 2018-09-22A
CHECKED: <Checked By>	DATED: <Checked Date>
QUALITY CONTROL: <QC By>	DATED: <QC Date>
RELEASED: <Released By>	DATED: <Release Date>

CODE	SIZE	DRAWING NO.	REV.
P411	D	P411	V1.2
SCALE: <Scale>			SHEET: 48 33

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REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:

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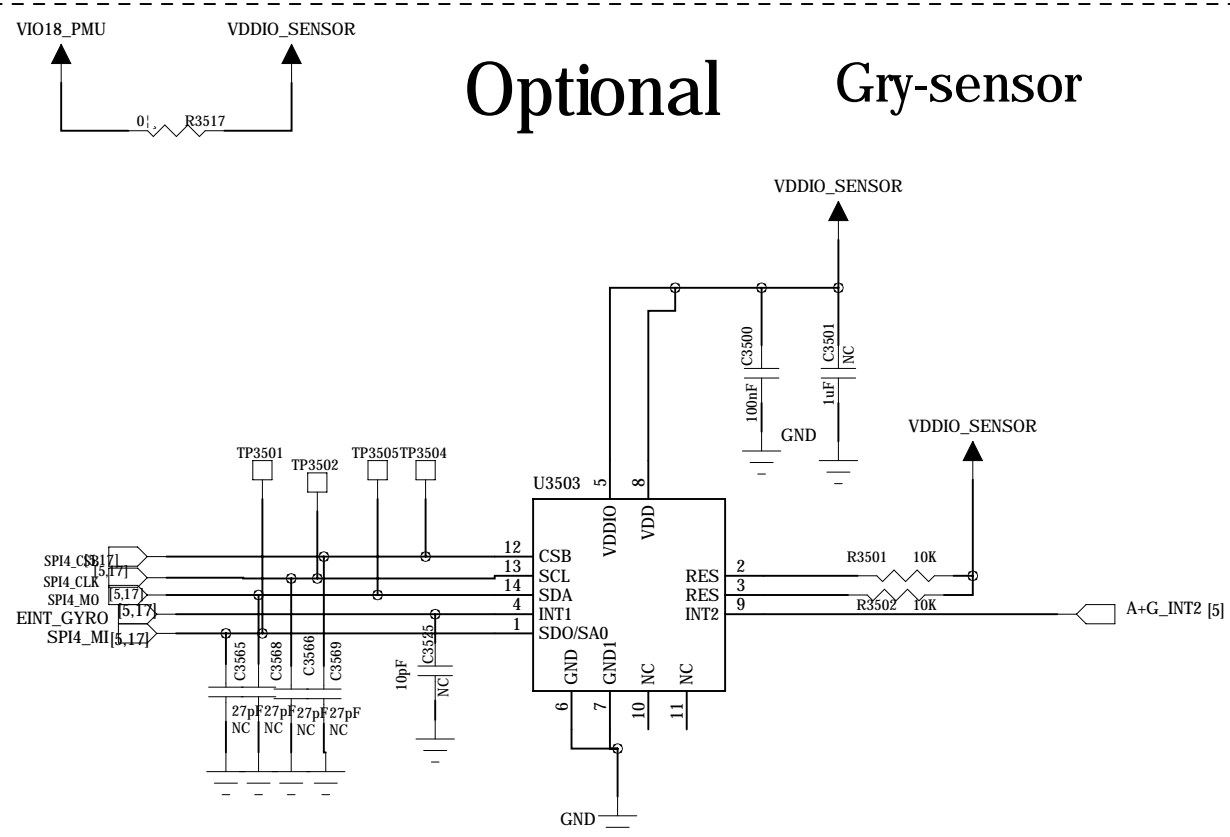
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		COMPANY: Tinno			
		TITLE: MT6765			
DRAWN: Marshall	DATED: 2018-09-22A				
CHECKED: <Checked By>	DATED: <Checked Date>	CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
QUALITY CONTROL: <QC By>	DATED: <QC Date>				
RELEASED: <Released By>	DATED: <Release Date>	SCALE: <Scale>			SHEET: 44 33

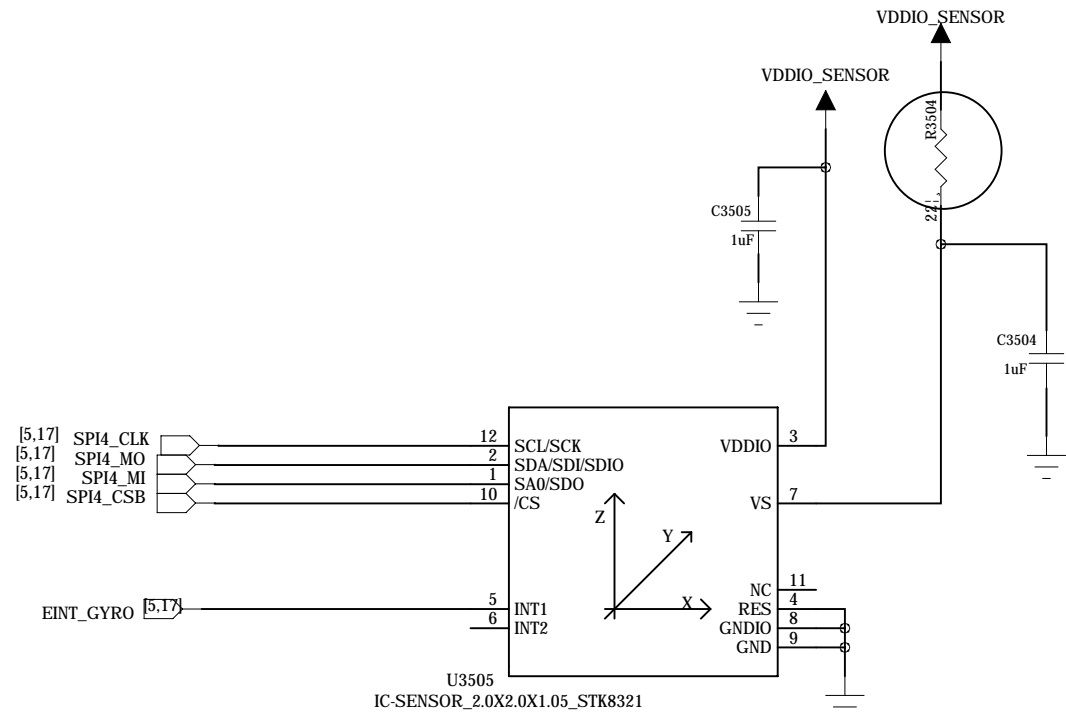
G+Gyro Sensor

Optional Gry-sensor



Accelerometer- Sensor

0824: Check SCH



E-Compass

E-Compass

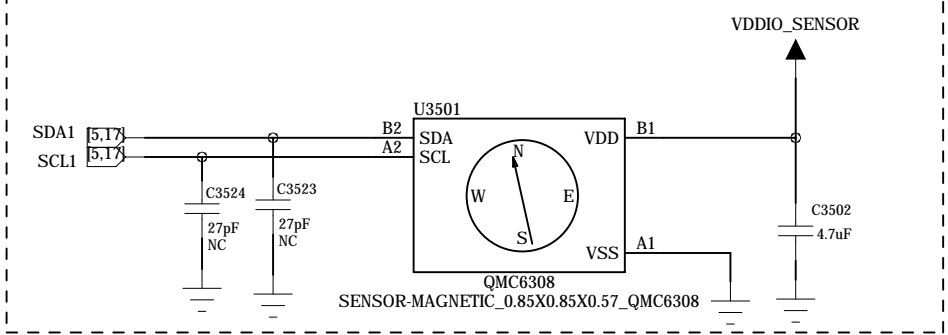
QMC6308	0x2C//58H(W)/59(R)
AKM09918	0x0C

Note: 77-1

zwt0831: near P/L sensor:

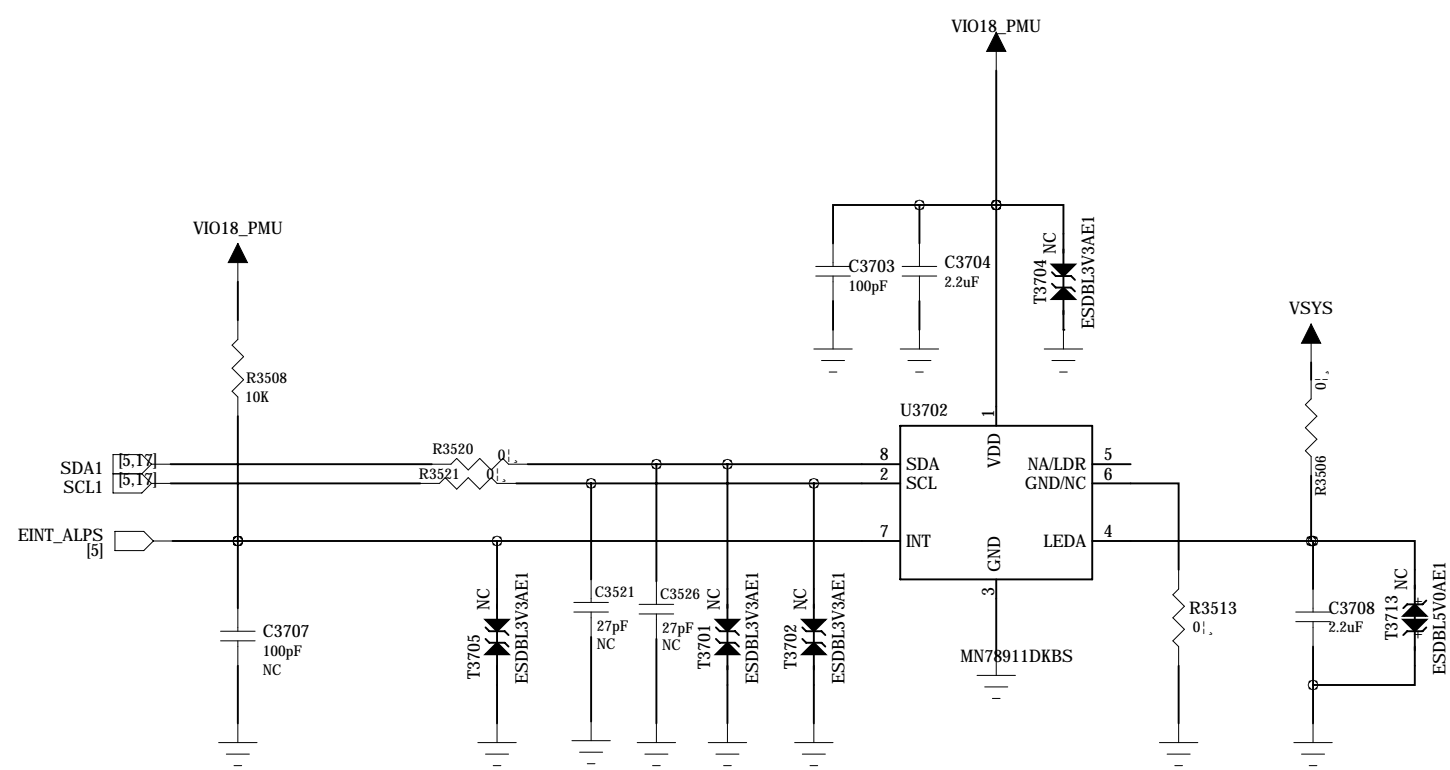
Note: 77-6

For debugging



Proximity Sensor charge

STK33562	0;Á46



Baro Sensor

Baro(BMP380) I2C address : 7h'76 (SDO pin tied to GND)

Schematic design notice of "77_PERI_SENSORS_MEMs_ALS/PS" page.

Note 77-1: [M sensor] Keep a minimum distance of 15mm from power ICs / PCB traces of more than 100mA / magnet component. Check HW design notice for more detail

Note 77-2: [A+G] For optimized GPS performance, please check HW design notice for Sensor selection guide

Note 77-3: [A+G] MUST use SPI for optimized sensor hub performance

DO NOT USE i2C

Note 77-4: [A+G] Suggest choose sensor support FIFO watermark interrupt otherwise we cannot support Hifi-sensor, daydream VR. And Sensor-location accuracy will become worse.

Note 77-5: [Baro] Reserve Baro sensor for LPPe feautre (Must for North America Operator / NA SKU)

Note 77-6: DO NOT share Sensor hub i2C to other non-SCP device

Note 77-7: Interrupt pin of MEMS sensor must be assign to ball EINT[12:0]

COMPANY: Tinnor

TITLE: MT6765

DRAWN: Marshall	DATED: 2018-09-22A
CHECKED: <Checked By>	DATED: <Checked Date>
QUALITY CONTROL: <QC By>	DATED: <QC Date>
RELEASED: <Released By>	DATED: <Release Date>

CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
SCALE: <Scale>	SHEET: 47	33	

REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:

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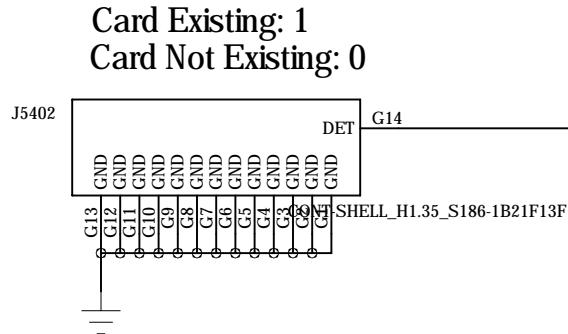
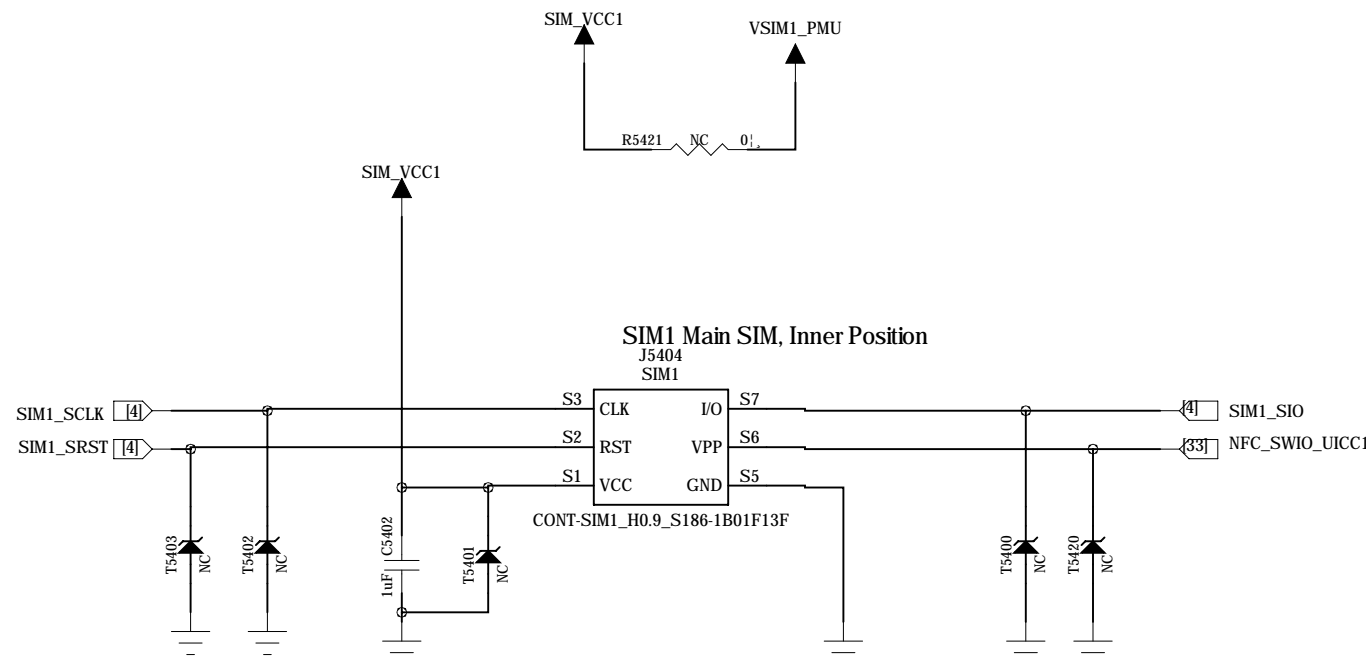
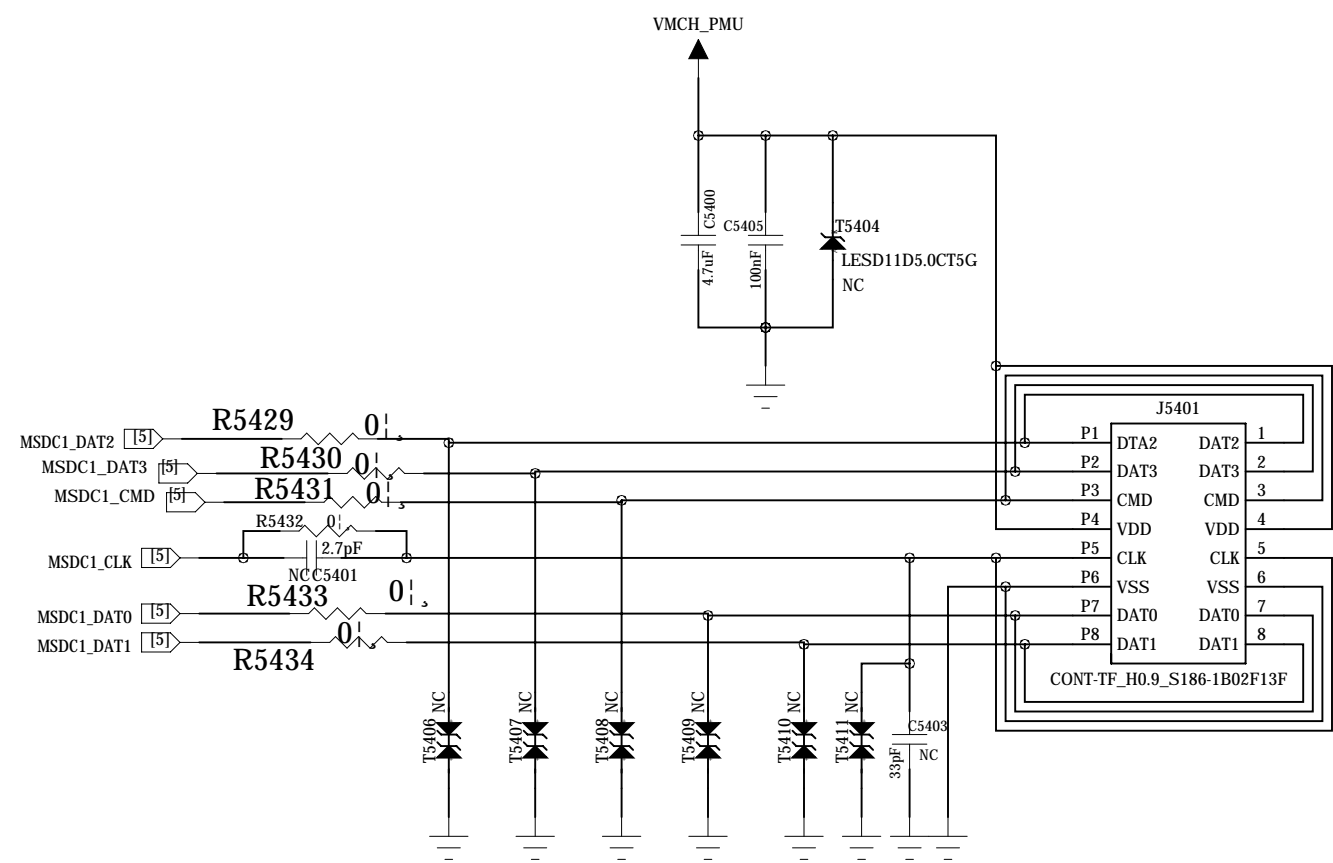
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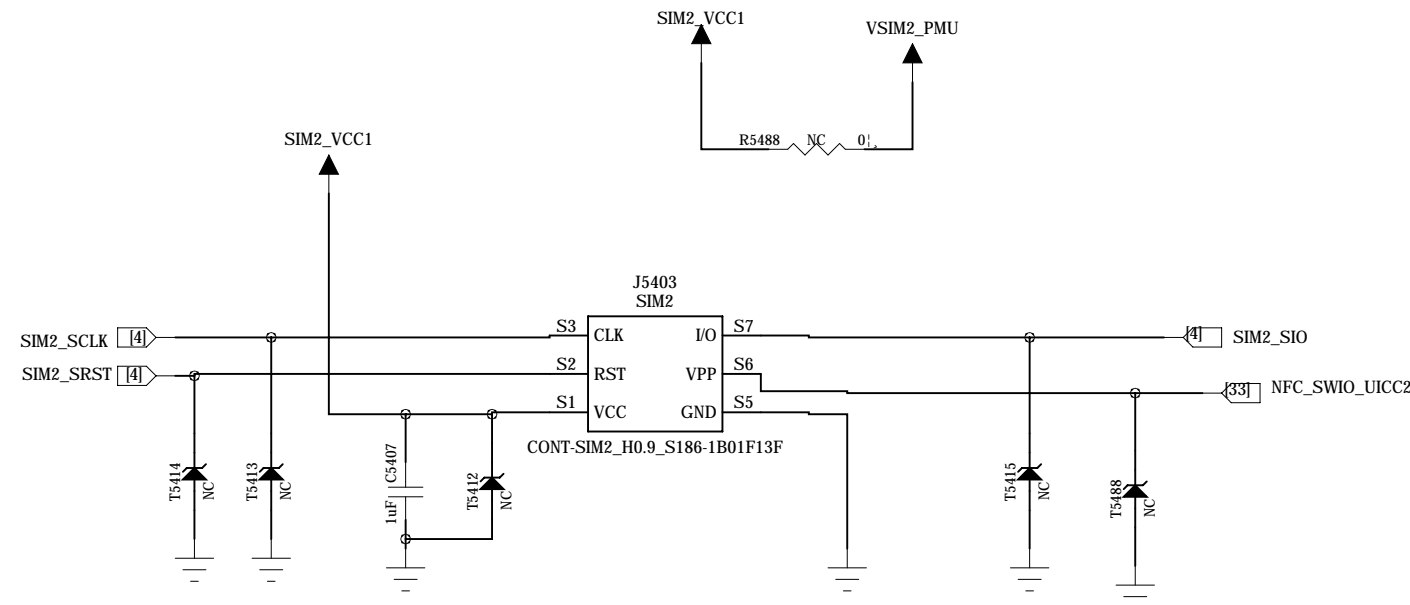
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SIM Card 2



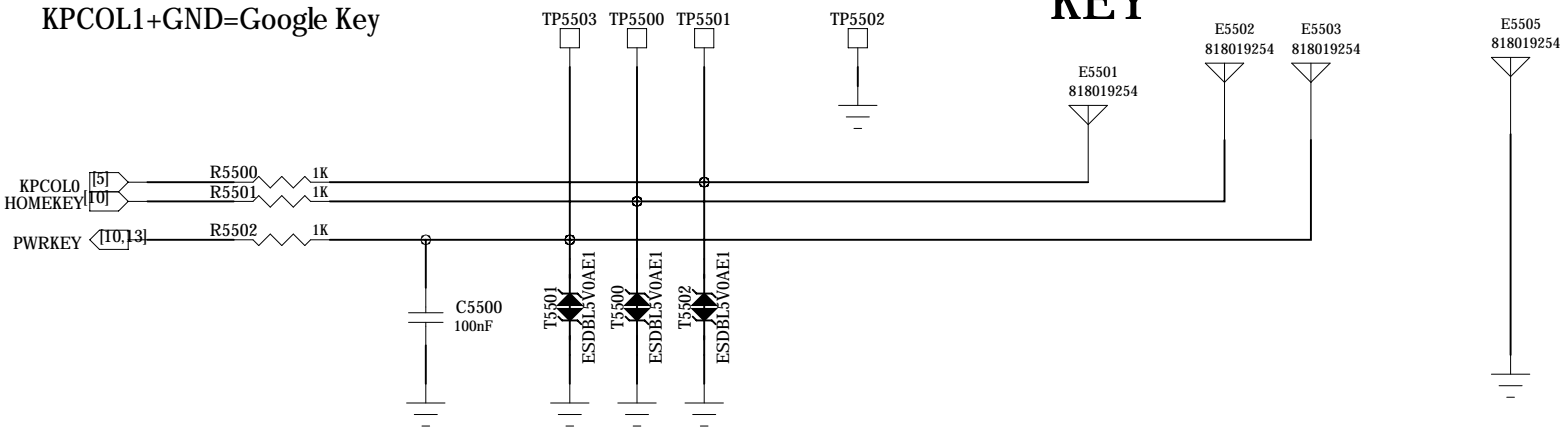
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CHECKED:	<Checked By>	DATED:	<Checked Date>
QUALITY CONTROL:	<QC By>	DATED:	<QC Date>
RELEASED:	<Released By>	DATED:	<Release Date>

COMPANY: Tinno			
TITLE: MT6765			
CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
SCALE: <Scale>			SHEET: 02 33

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

MP Test point

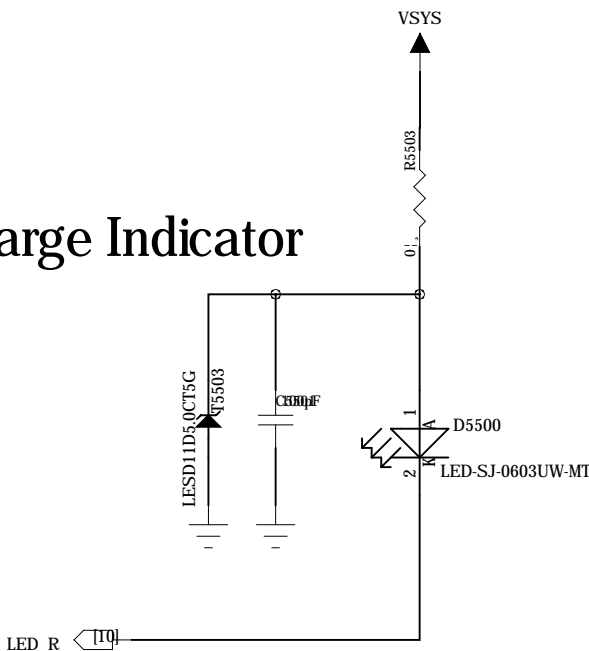
KPCOL0+GND=VOL+
HOMEKEY+GND=VOL-
KPCOL1+GND=Google Key



KEY

COBY-P720AE

Charge Indicator



COMPANY: Tinno			
TITLE: MT6765			
CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
SCALE: <Scale>		SHEET: 08 33	

DRAWN: Marshall	DATED: 2018-09-22A
CHECKED: <Checked By>	DATED: <Checked Date>
QUALITY CONTROL: <QC By>	DATED: <QC Date>
RELEASED: <Released By>	DATED: <Release Date>

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

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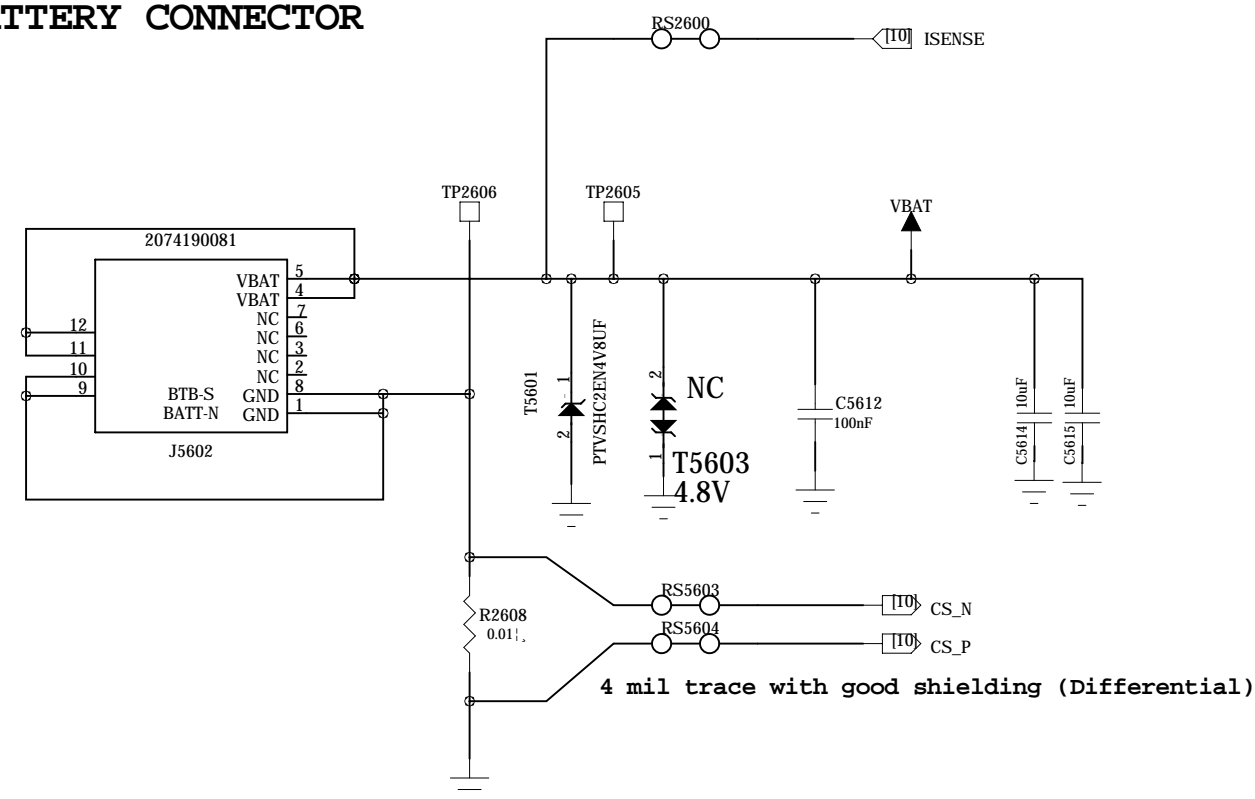
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BATTERY CONNECTOR



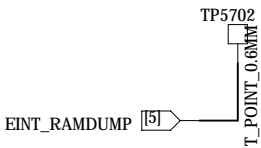
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		TITLE: MT6765			
DRAWN: Marshall	DATED: 2018-09-22A				
CHECKED: <Checked By>	DATED: <Checked Date>	CODE:	SIZE:	DRAWING NO:	REV:
QUALITY CONTROL: <QC By>	DATED: <QC Date>	P411	D	P411	V1.2
RELEASED: <Released By>	DATED: <Release Date>	SCALE: <Scale>			SHEET: 04 33

Debug Test Point

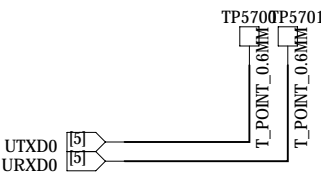
Fixture Test Point

REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:

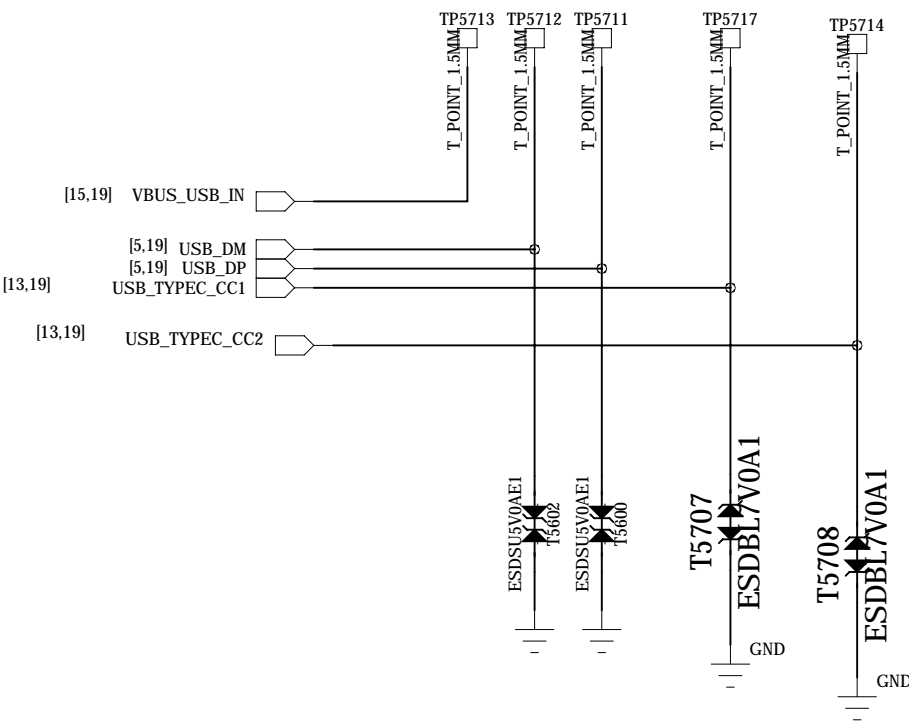
RAM dump



UART



USB

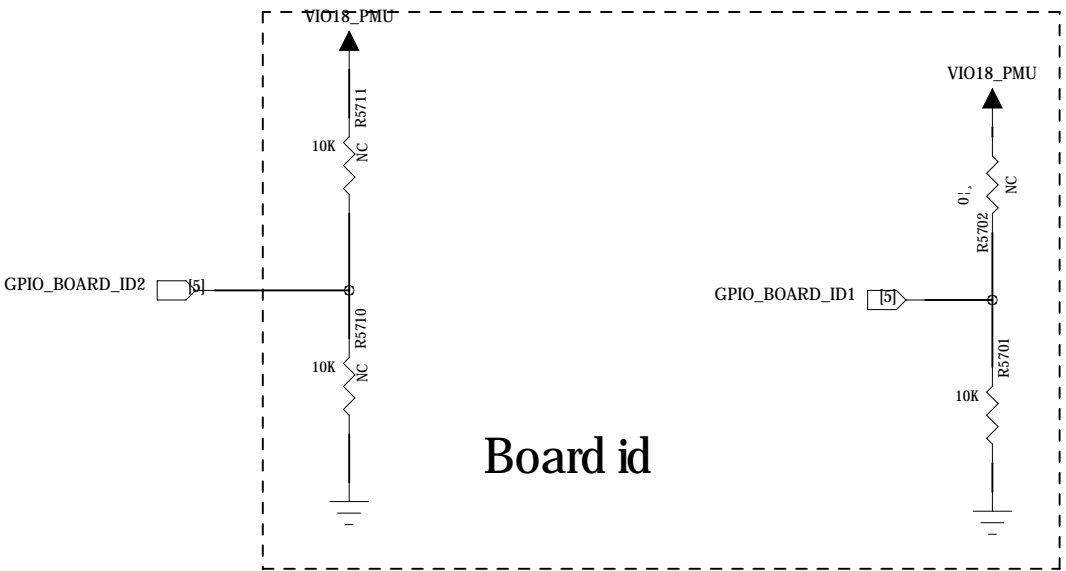
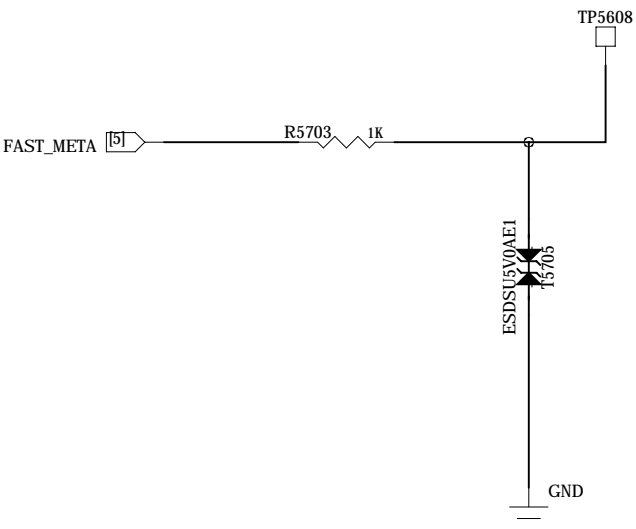


Batery
Refer to Page 26

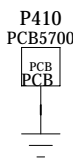
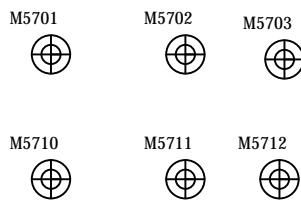
CTP
Refer to Page 56

Key
Refer to Page 55

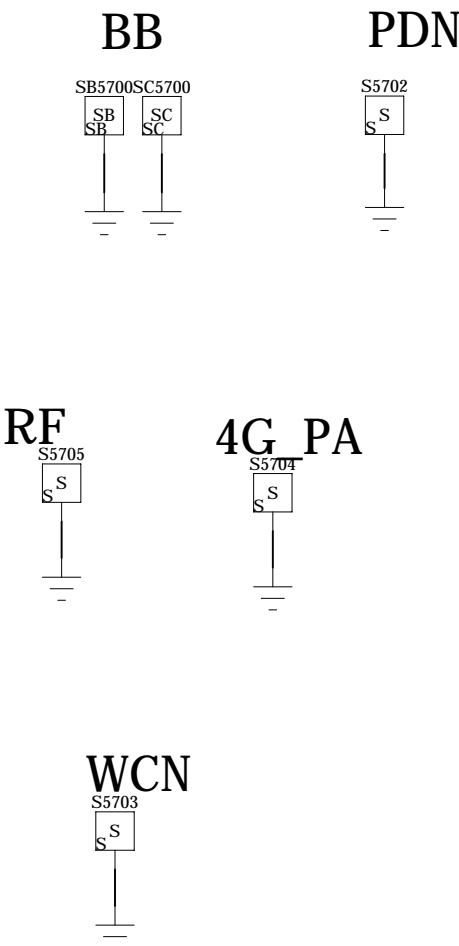
Fast META



Mark



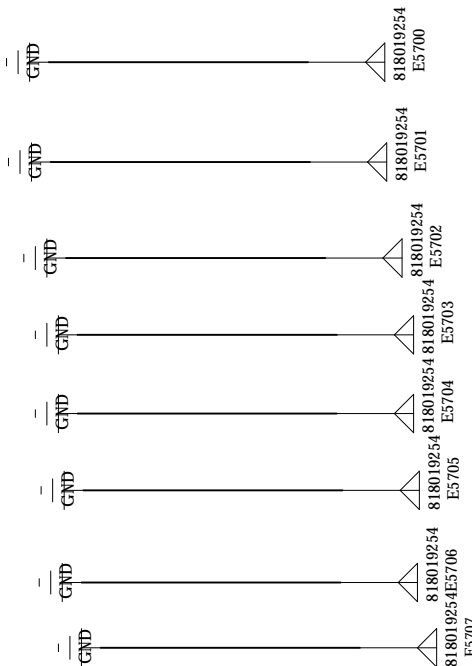
shielding can



Metal Grounding

Top

Bottom



COMPANY: Tinno			
TITLE: MT6765			
DRAWN: Marshall	DATED: 2018-09-22A	CODE: P411	SIZE: D
CHECKED: <Checked By>	DATED: <Checked Date>	DRAWING NO: P411	REV: V1.2
QUALITY CONTROL: <QC By>	DATED: <QC Date>	SCALE: <Scale>	
RELEASED: <Released By>	DATED: <Release Date>	SHEET: 86 33	

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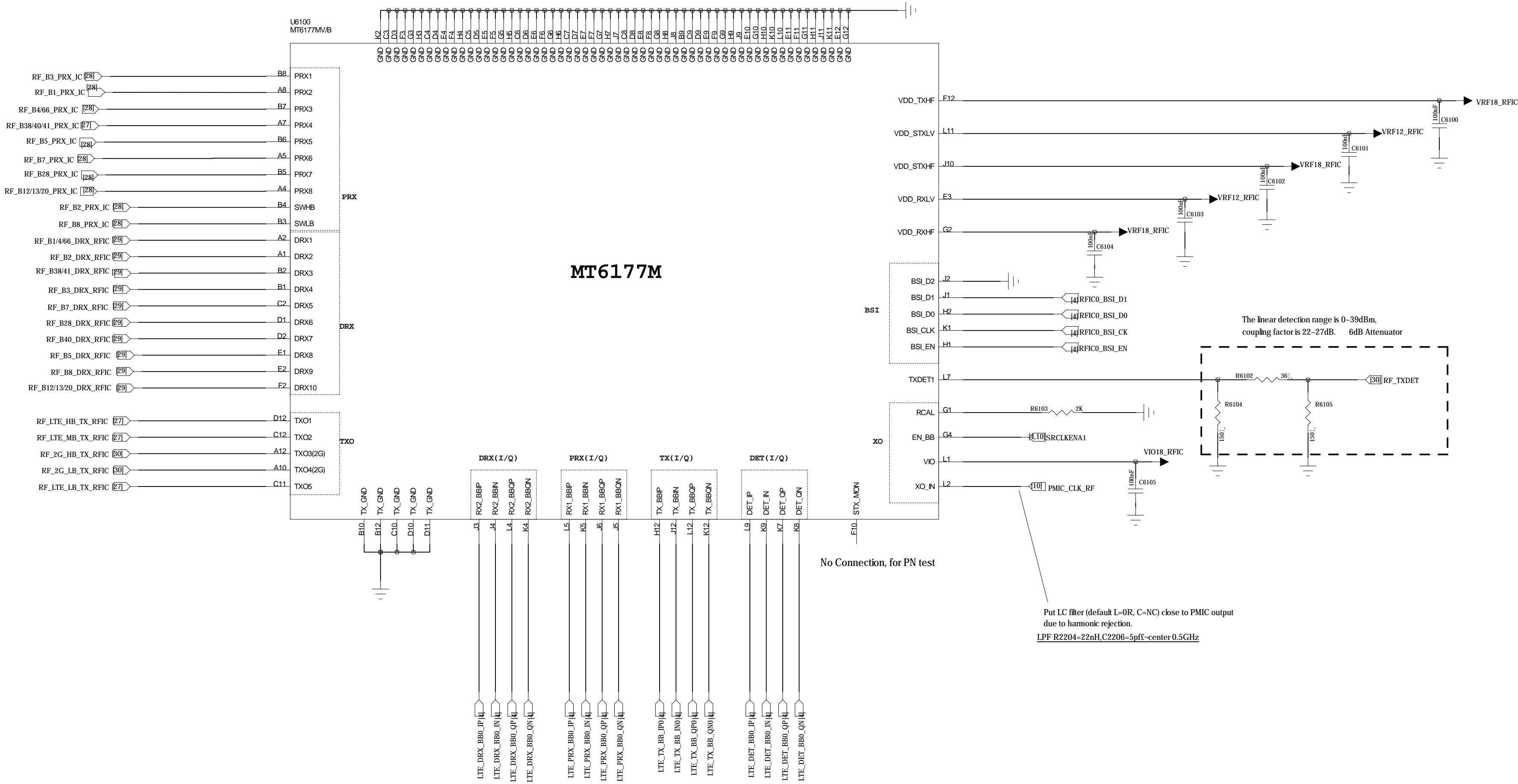
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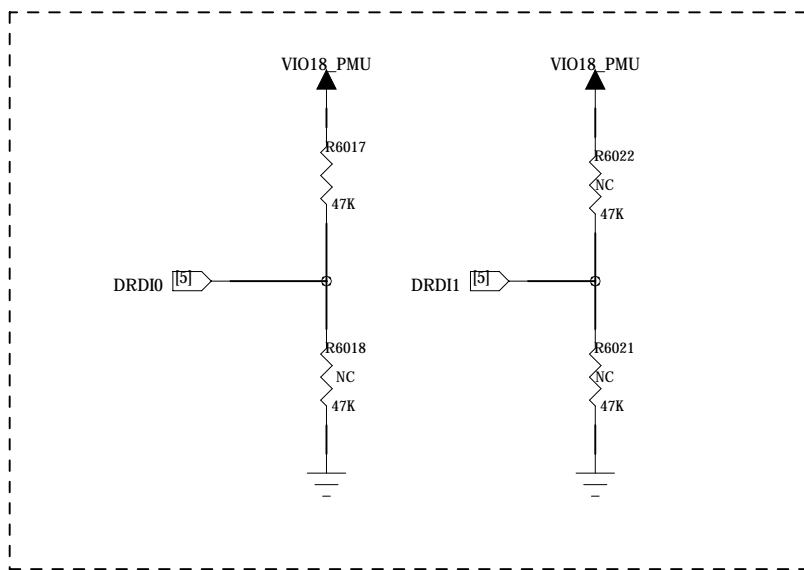
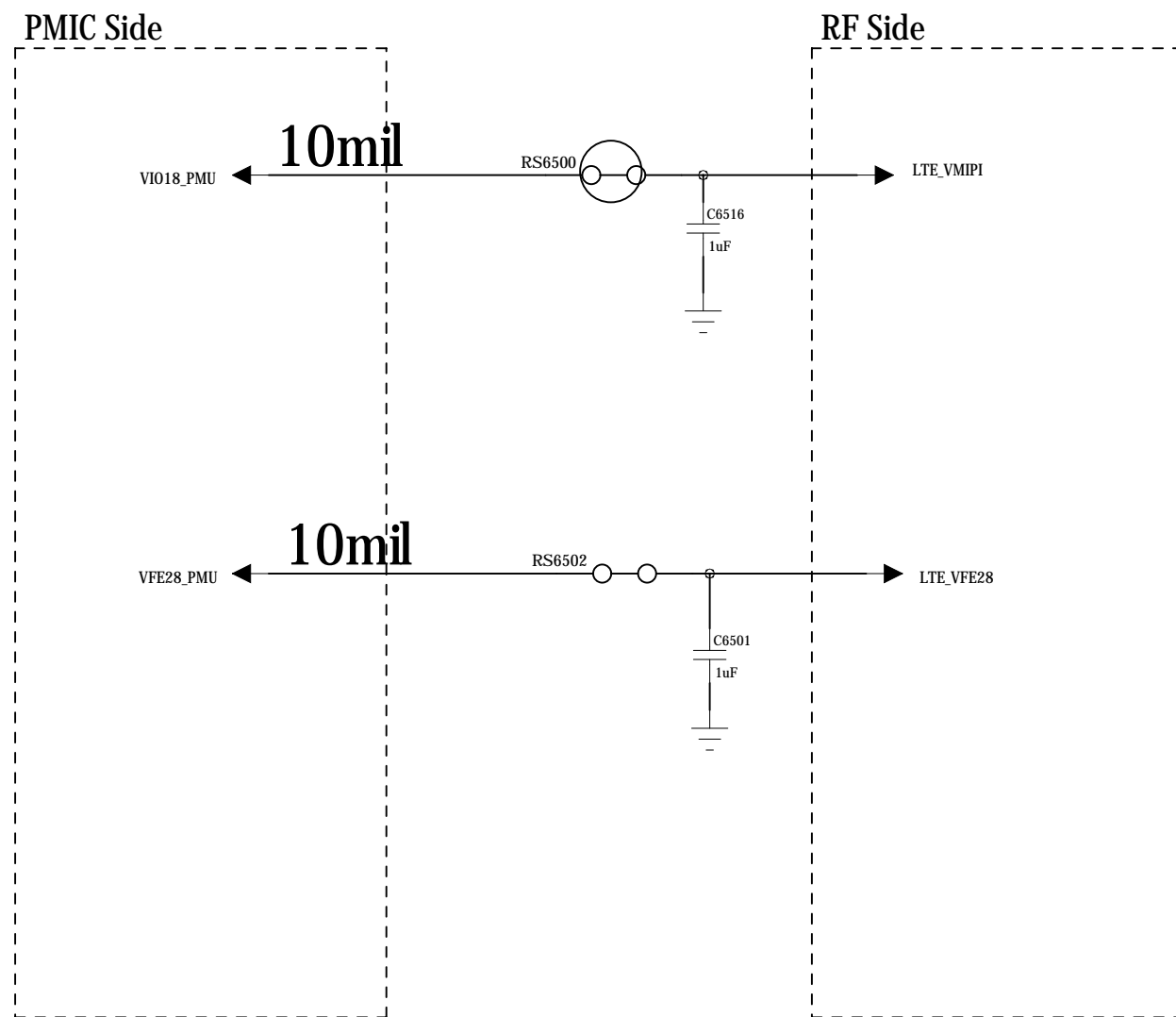
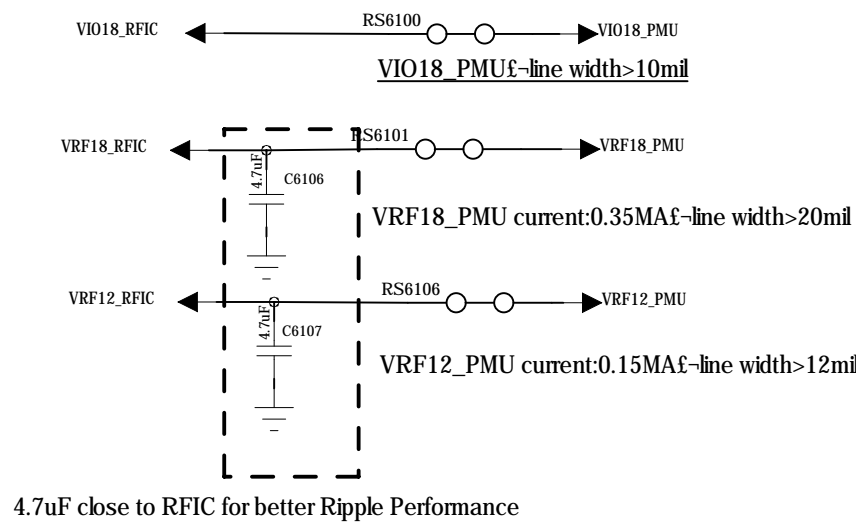
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PMIC to RF power net transfer



DRDI

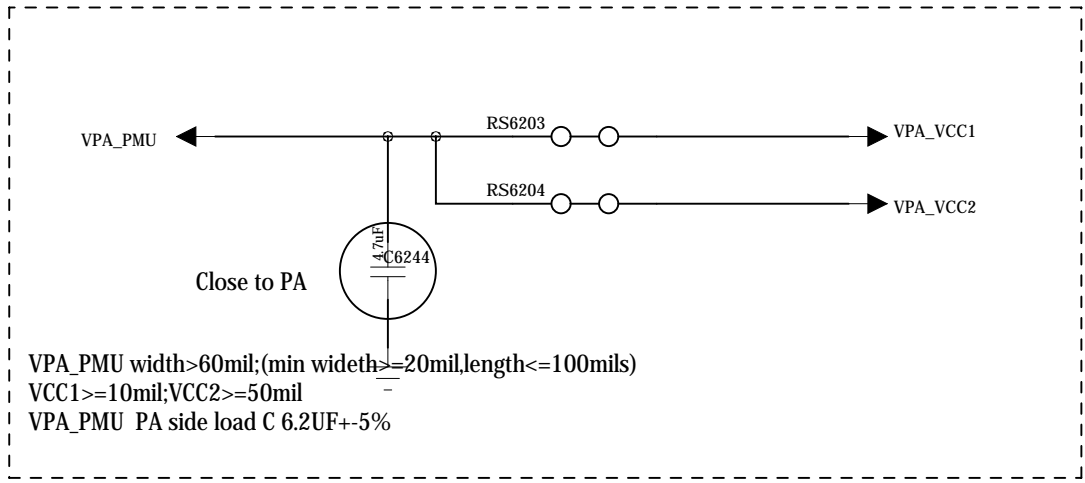
SKU	R6017	R6018	R6022	R6021
EU	47K	NC	NC	NC
LA	NC	47K	NC	NC
AP	NC	NC	47K	NC

DRAWN:	Marshall	DATED:	2018-09-22A
CHECKED:	<Checked By>	DATED:	<Checked Date>
QUALITY CONTROL:	<QC By>	DATED:	<QC Date>
RELEASED:	<Released By>	DATED:	<Release Date>

COMPANY: Tinn			
TITLE: MT6177			
CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
SCALE: <Scale>			SHEET: 26 33

REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:

CO-layer	C6243	C6247
B4	NC	33pF
B41	33pF	NC



VCC10V VCC20V

Band	RX
B40(pin37)	TRX1(pin41)
B41(pin39)	TRX2(42) pin33,pin35

3/4G_PAIN_HB

3/4G_PAIN_MB

3/4G_PAIN_LB

4C PA input need LPF for harmonic rejection

Thermistor / To sense board level temperature

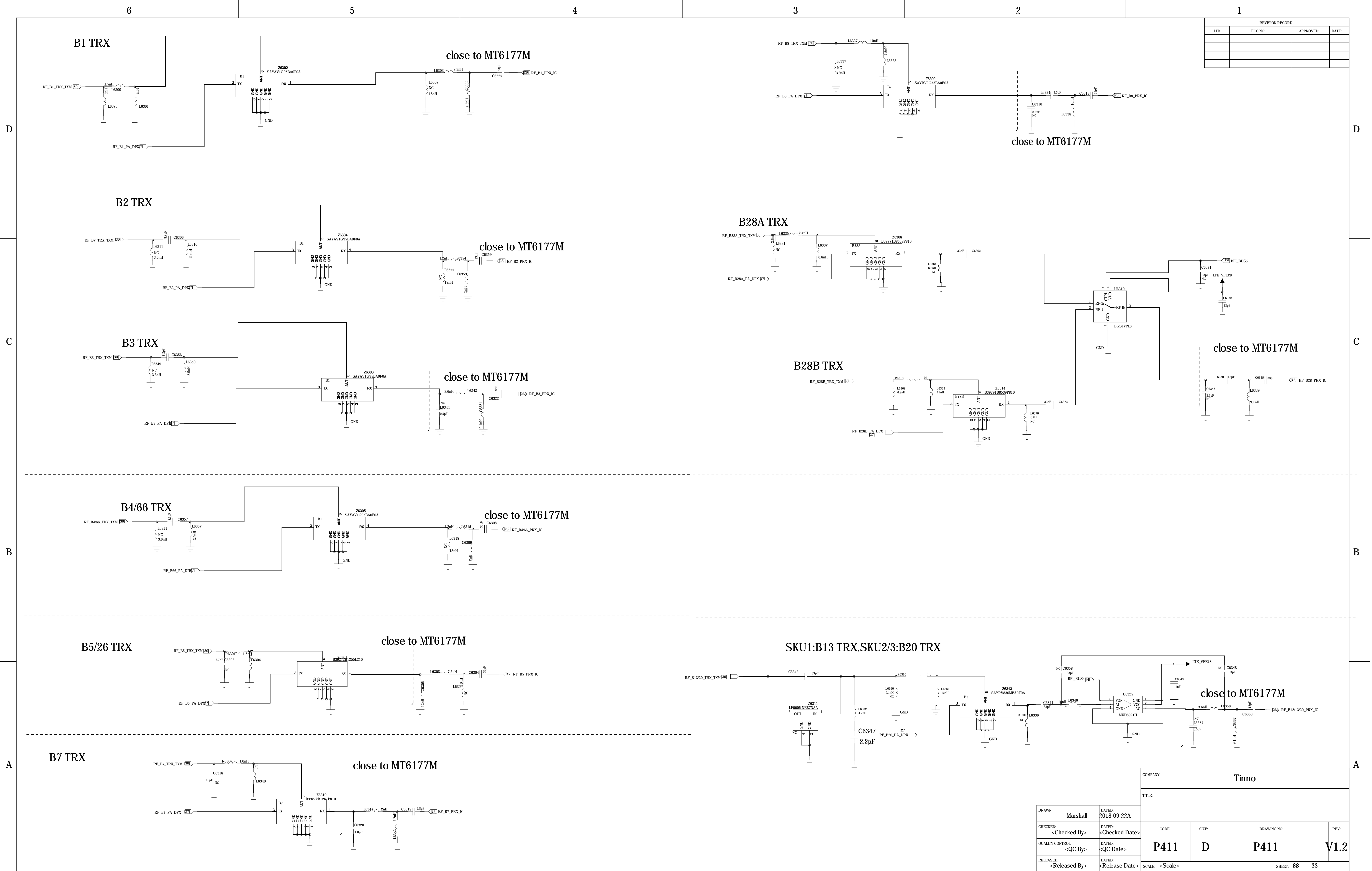
Thermistor have to be placed as close to B7&B1 PA as possible, routing with ground guard.
RT900 close to PA , and located in the same layer

close to MT6177M

CO-layer	C6248	C6248	C6239	C6242
B40_HBRX	NC	33pF	33pF	NC
B40_TXM	NC	33pF	NC	33pF
B28B	33pF	NC	NC	NC

DRAWN:	Marshall	DATED:	2018-09-22A
CHECKED:	<Checked By>	DATED:	<Checked Date>
QUALITY CONTROL:	<QC By>	DATED:	<QC Date>
RELEASED:	<Released By>	DATED:	<Release Date>

COMPANY: Tinno			
TITLE: MT6765			
CODE: P411	SIZE: D	DRAWING NO: P411	REV: V1.2
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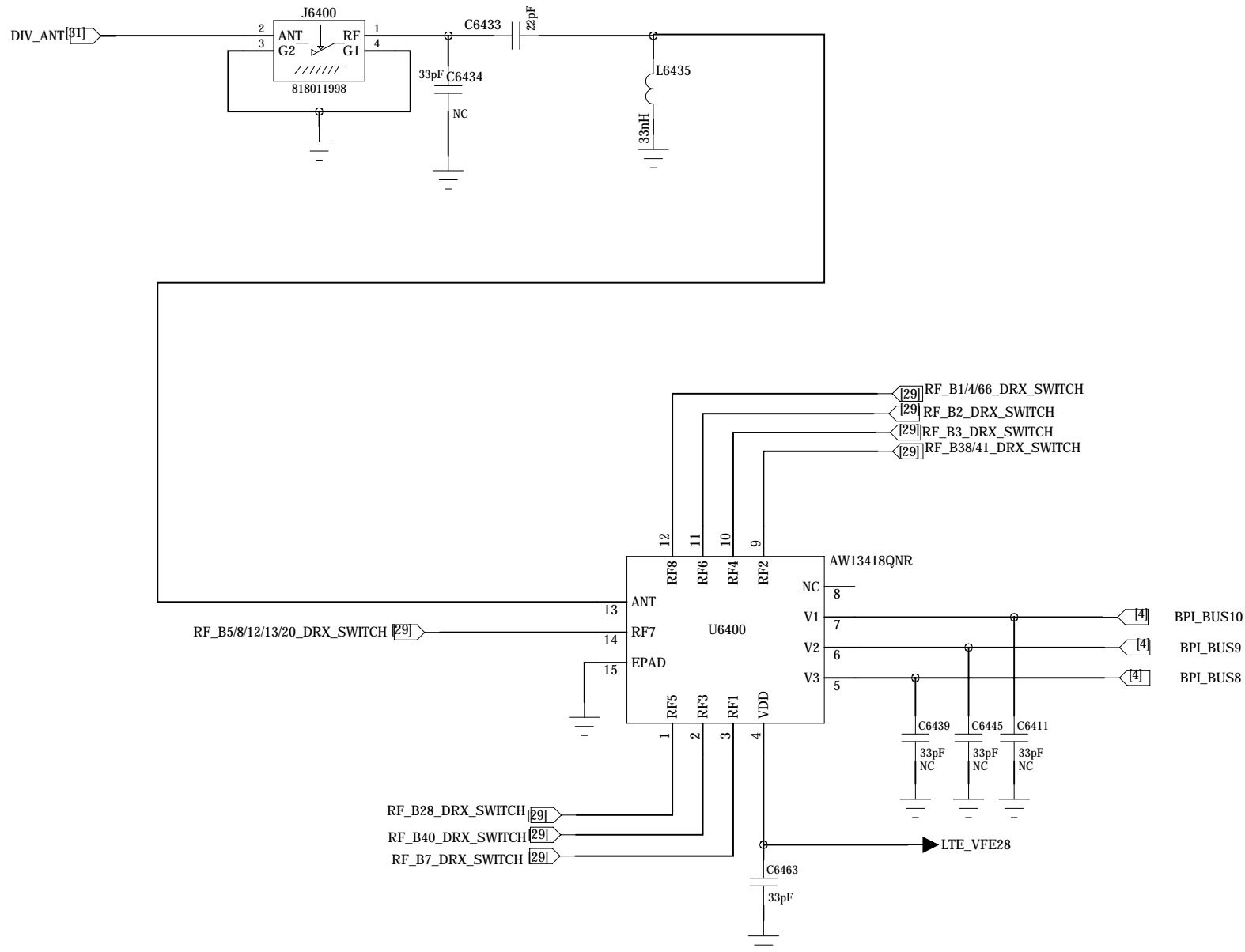
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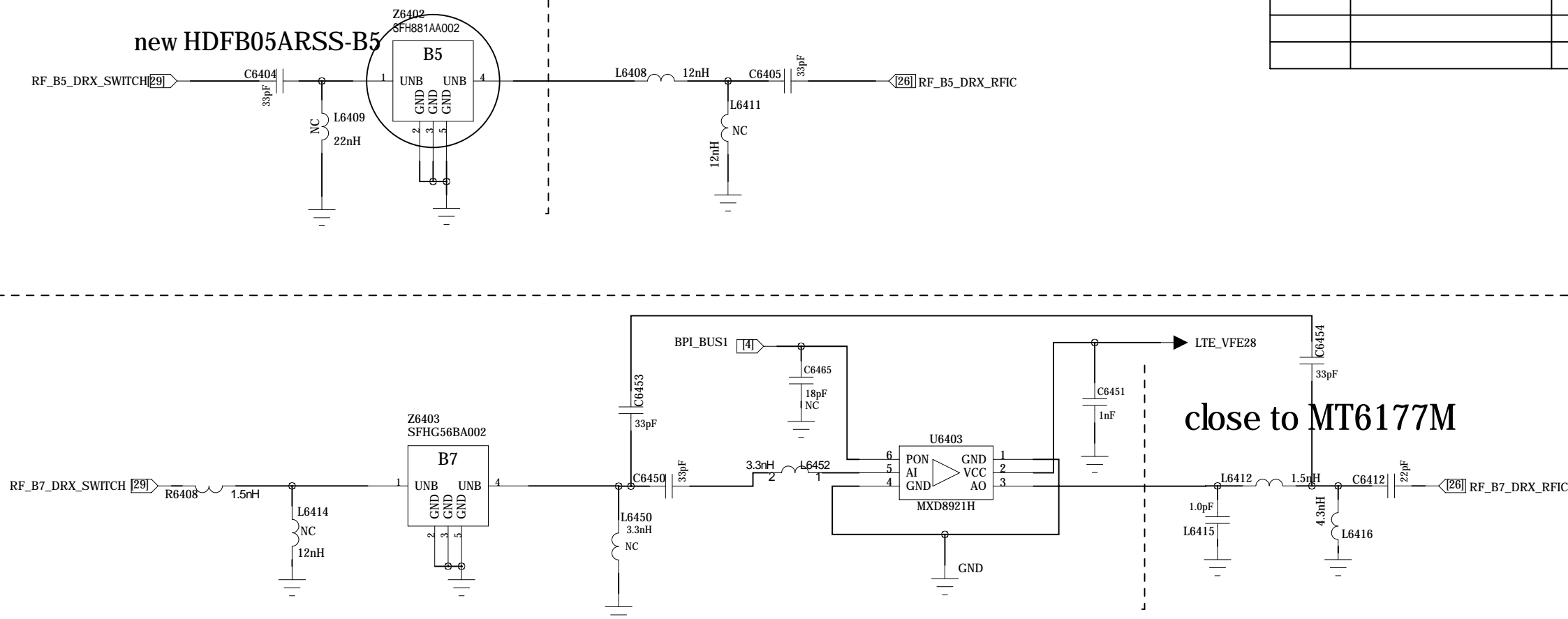
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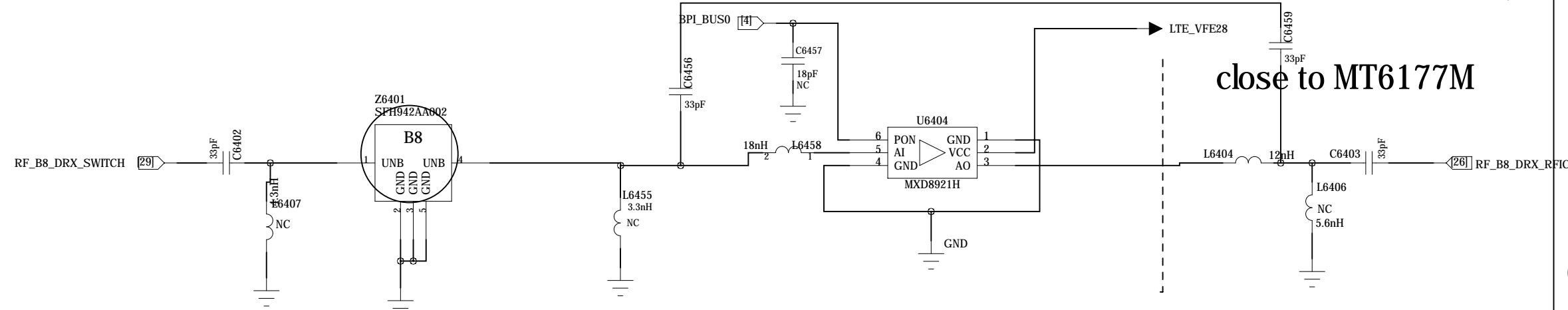
REVISION RECORD			
LTR	ECO NO.	APPROVED	DATE



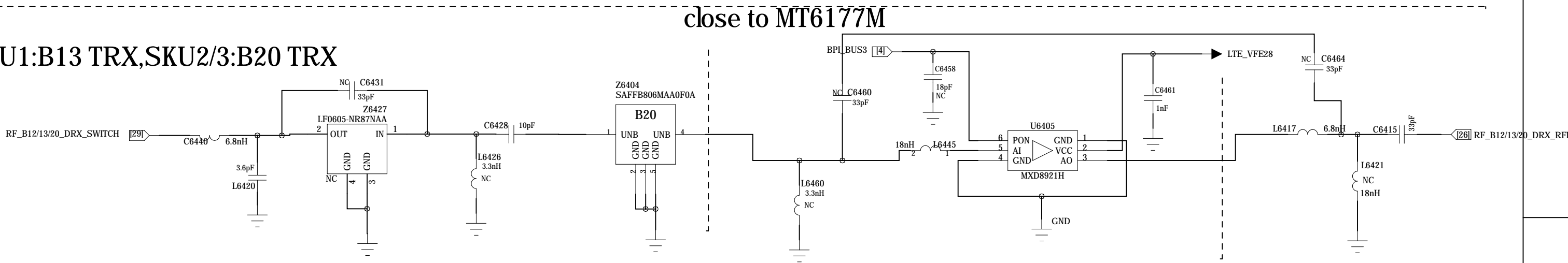
B7 DRX



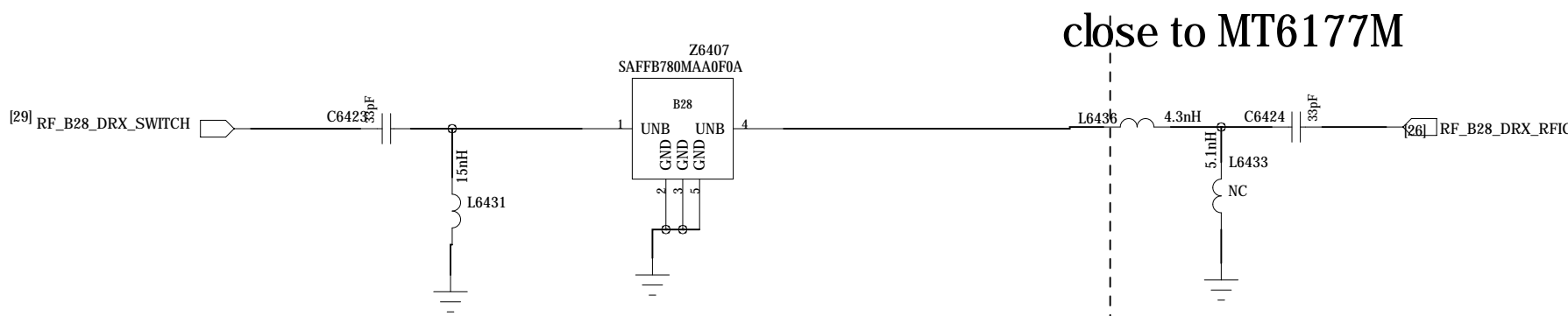
B8 DRX



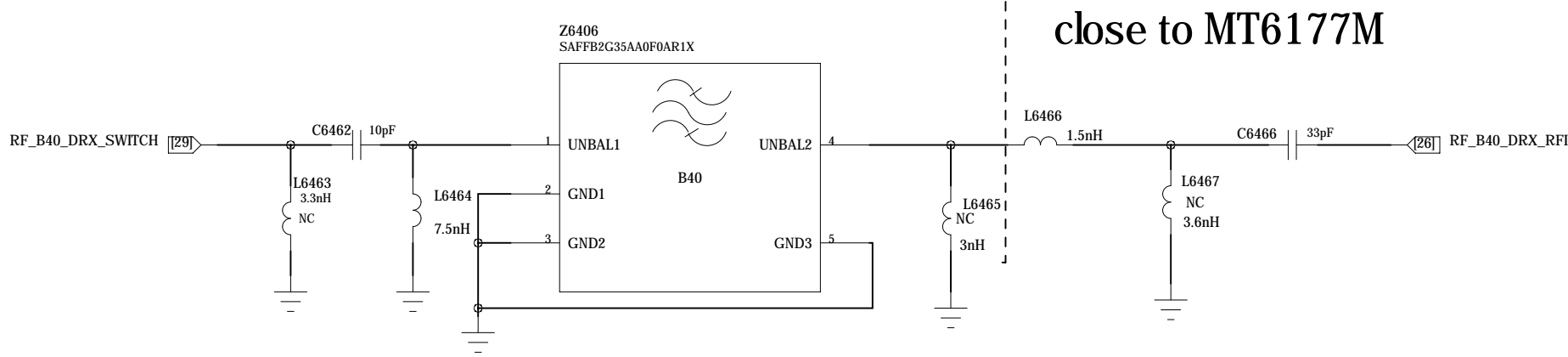
SKU1:B13 TRX,SKU2/3:B20 TRX



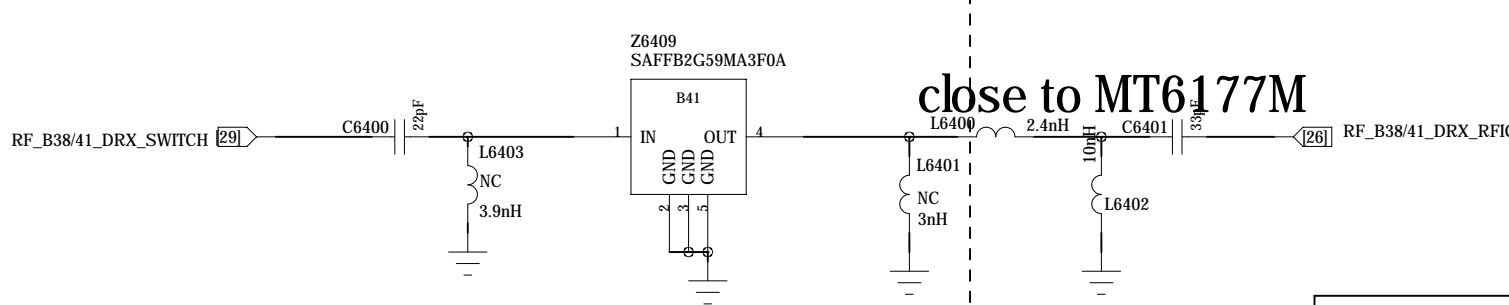
B28 DRX



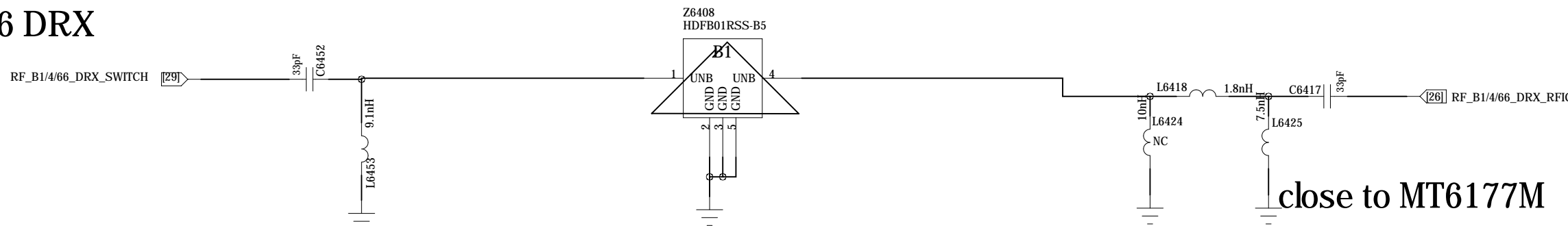
B40 DRX



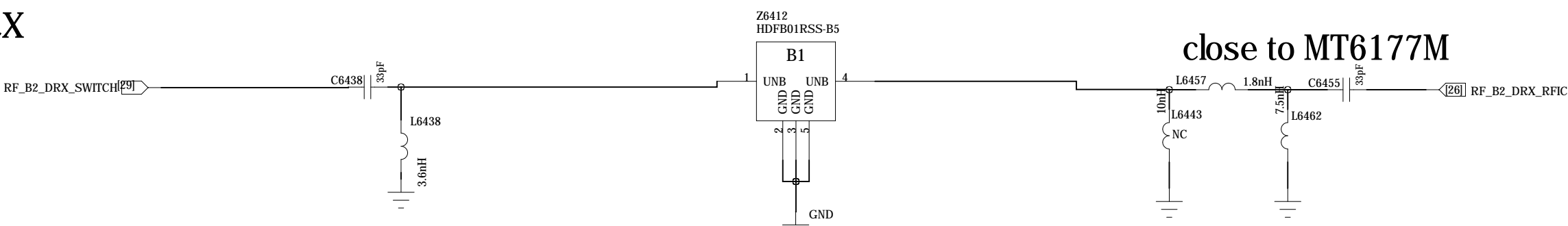
B41 DRX



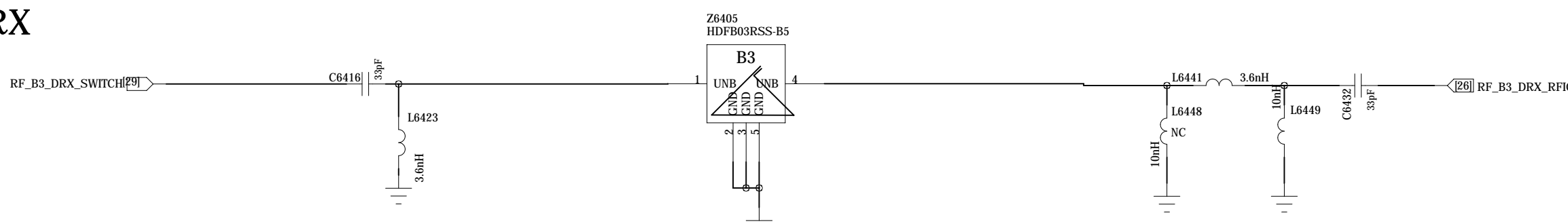
B1/4/66 DRX



B2 DRX



B3 DRX



COMPANY: Tinnco			
TITLE: MT6765			
DRAWN: Marshall	DATED: 2018-09-22A	CODE: P411	SIZE: D
CHECKED: <Checked By>	DATED: <Checked Date>	DRAWING NO: P411	REV: V1.2
QUALITY CONTROL: <QC By>	DATED: <QC Date>	SCALE: <Scale>	SHEET: 20 33
RELEASED: <Released By>	DATED: <Release Date>		

