Reverse Engineering Challenge
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I choose a Nokia Model 3360 cell phone to deconstruct. I was interested to see if older phones were made differently than newer phones. I have always had an interest in older phones and older technology, so to be able to take an old phone apart really peaked my interest.

I was able to identify a few parts during deconstruction. The speaker, the keypad, the battery connector, the ON button, and the logic board. These parts are in every phone that will ever be made, though as technology progresses, they will get better, smaller and cheaper to make.

The speaker is used for any sound the phone may produce whether it is a ringtone, phone call, or audio from a video or game. The keypad is what a user uses to type numbers and letters or navigate to a different screen on the phone while most phones now are touch screens it was very important for older phones to have a keypad of some sort. The battery connector is a small metal piece that the battery connects to that allows the phone to use the stored power. The ON button which is located on the top of the phone is a black piece with a little red circle. The logic board is the main component in the phone that holds all the information needed to operate.

I learned that while phones may be complicated, most phones are made the same, they share most of the same types of components even if is an older device. While newer technology is far more advanced than it was 20 years ago, remembering the past and how far technology has come will make people realize how much it has changed people's lives. Technology is only going to improve as time passes. If people understand how older technology is made more people will understand how new technology can be made.

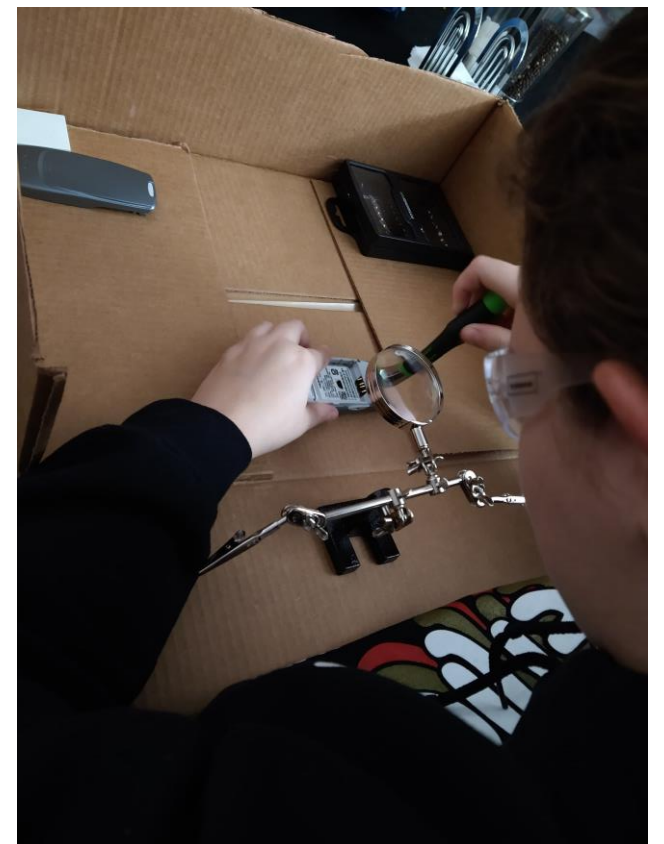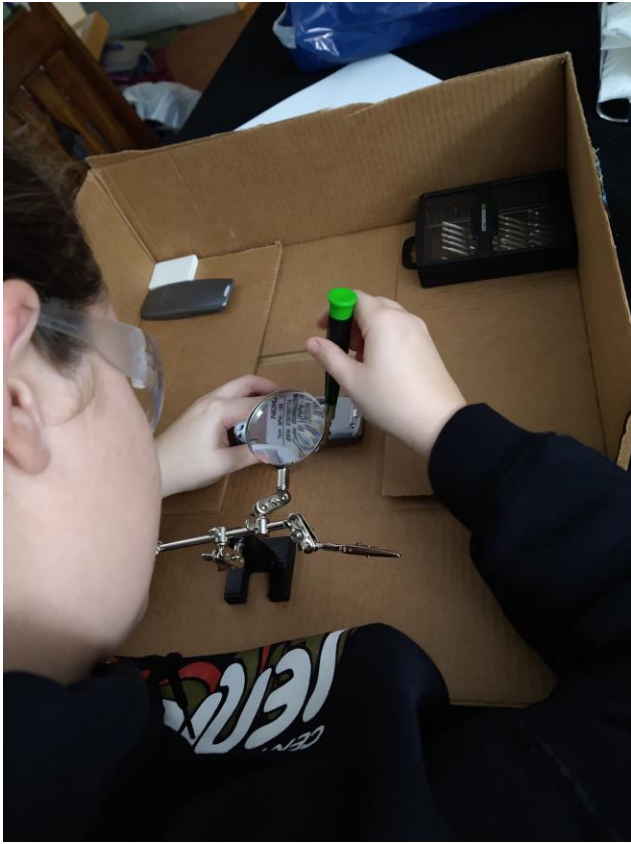Button to take back panel off

Charing port

On Button

Nokia Model 3360

Information of Phone and Nokia battery

Working on taking the Battery holder off
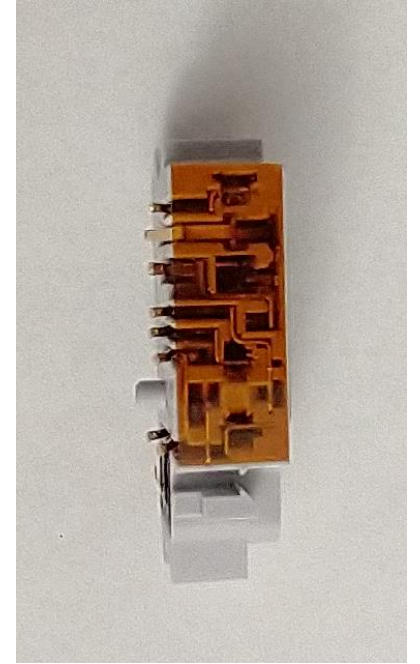
Main phone compartment and Outer Casing of phone

Sides and Top view of phone

Front casing and Keypad

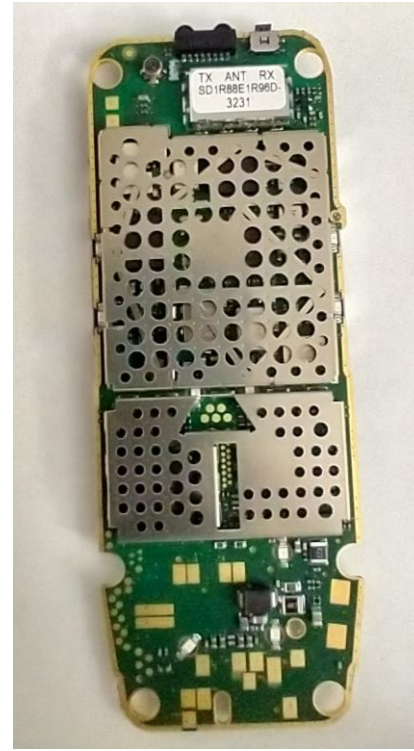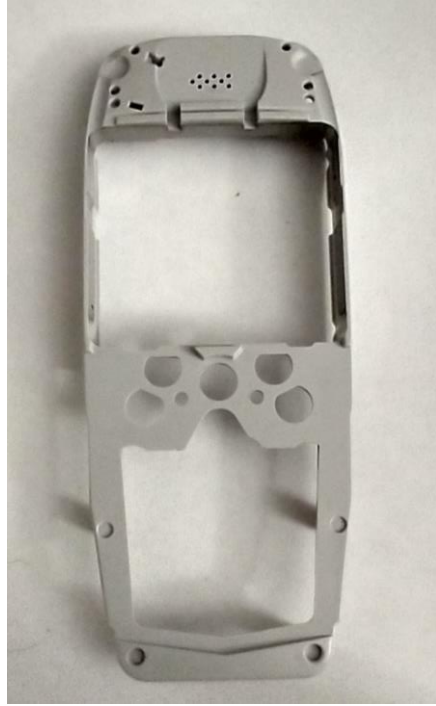**Charger Connector**
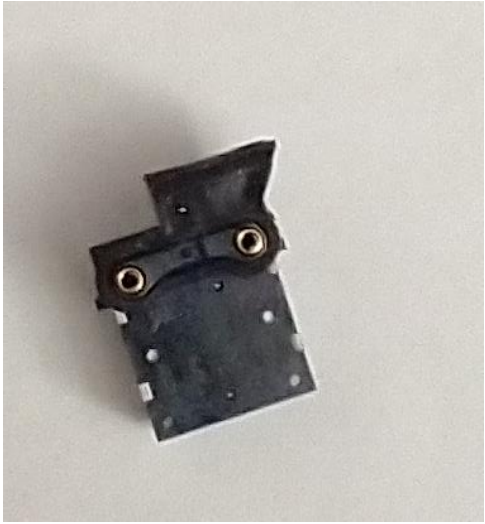
This is what user plugs phone charger into

Inner phone casing and logic Board with Screen attached

Speaker was inserted here

Speaker holder and speaker part
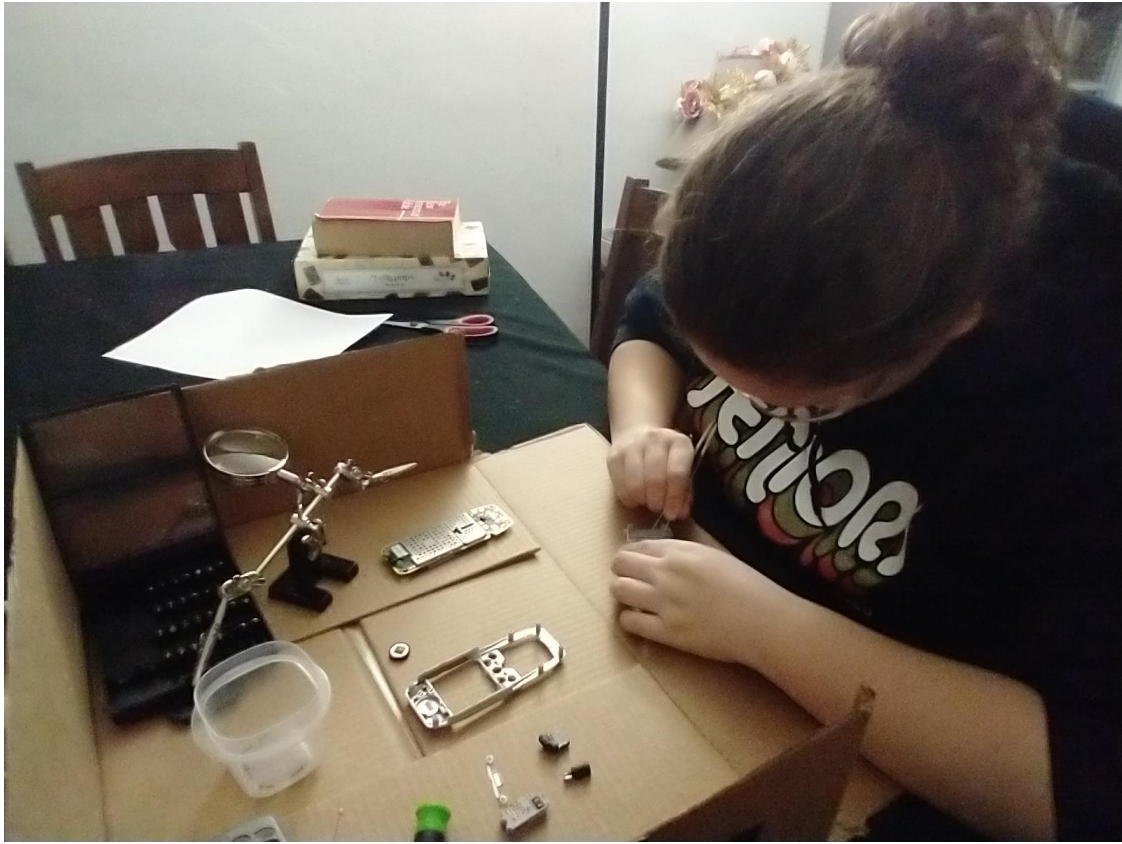Speaker will play different sounds the phone makes

SIM contacts: Stores data

It was a connection piece for two screws

Vibration: When the user gets a notification this part will cause the phone to vibrate
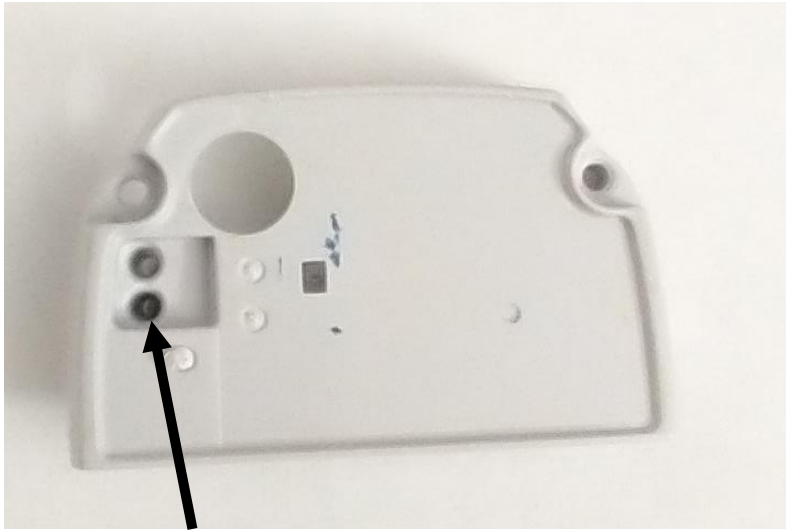
Working on the Phone

Upon my research I believe this is the antenna

The antenna and the on Button
Antenna allows phone to connect to cell towers

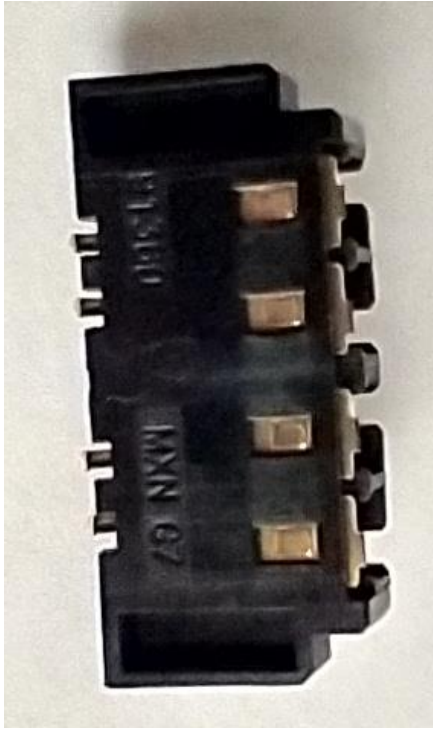The two metal rods on the antenna would be inserted here

Antenna Holder

Battery Connection this is connected to the battery when user takes the battery out

NOKIA
Type: NPW—1NB   Model 3360
ESN: 07307337174
Code: 05088999JJ25RG
FCC ID: LIPNPW—1NB
IC: 661282203A / 661332292A
AWS Part#: 797553007760

HECHO EN MEXICO/MADE IN MEXICO
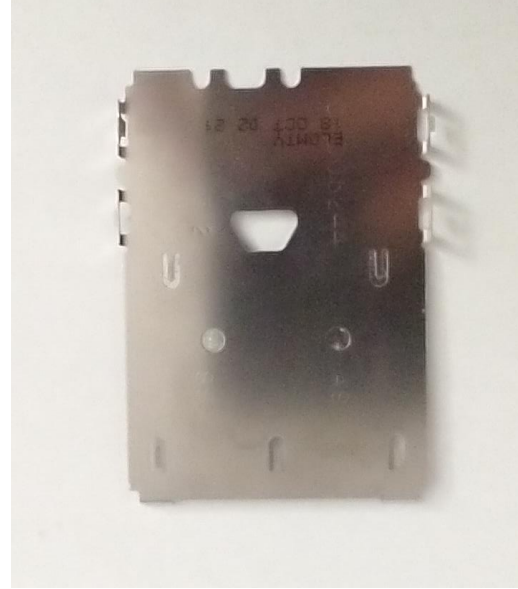
Plastic shell of phone and Information Panel

Screen and Keypad sensors
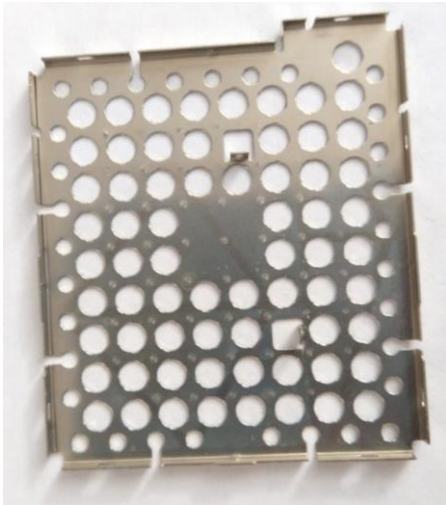
Back of screen

Front of screen

Logic board protector and phone screen
Phone screen can be replaced if it gets cracked
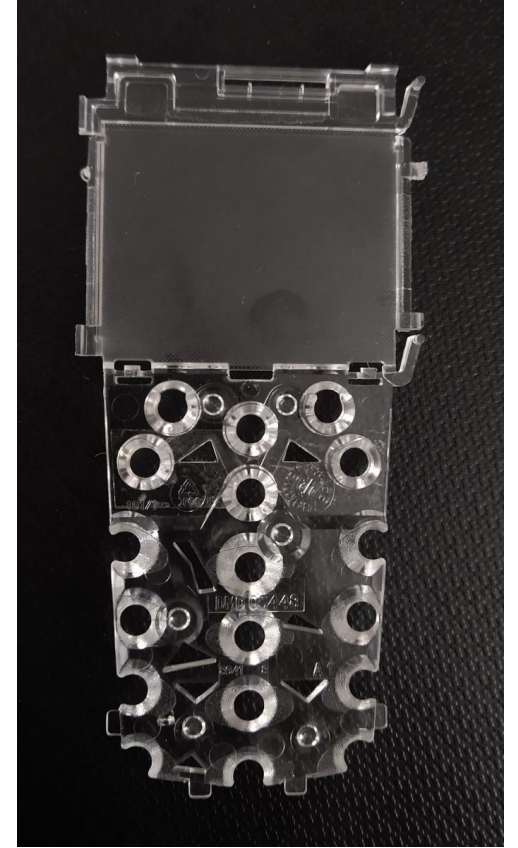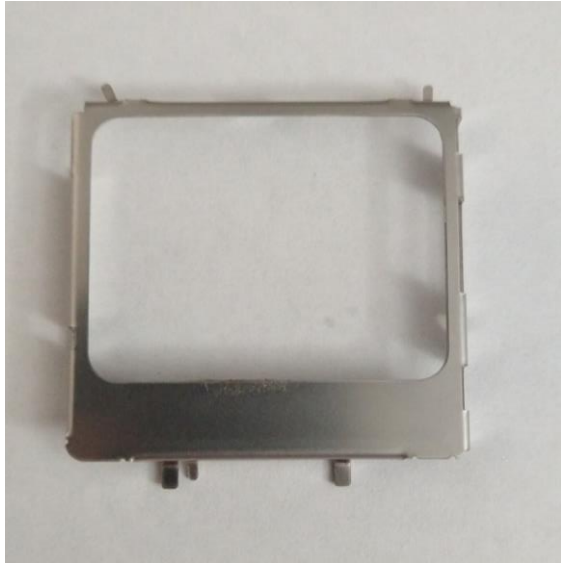
Metal screen casing and plastic screen with Keypad casing

Screen backing and keypad sensors

Logic Board
Logic Board stores all the data and allows electricity to flow though the phone
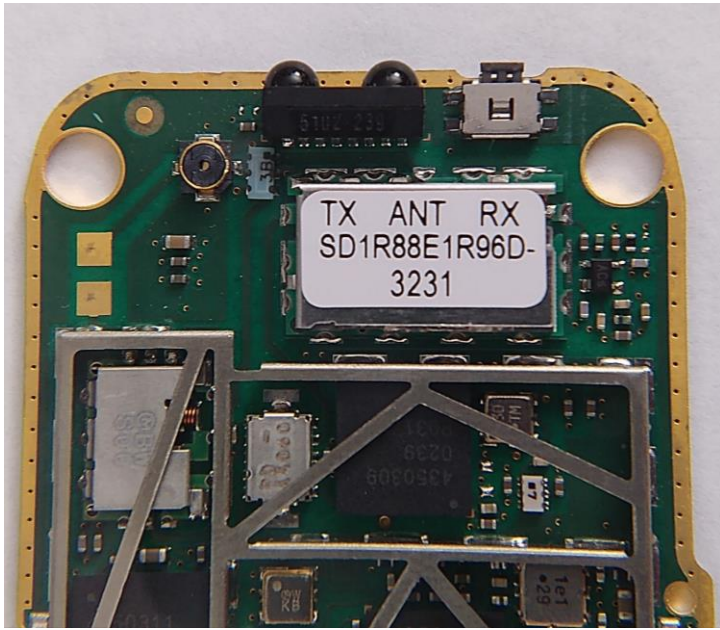
Closer picture of Logic Board
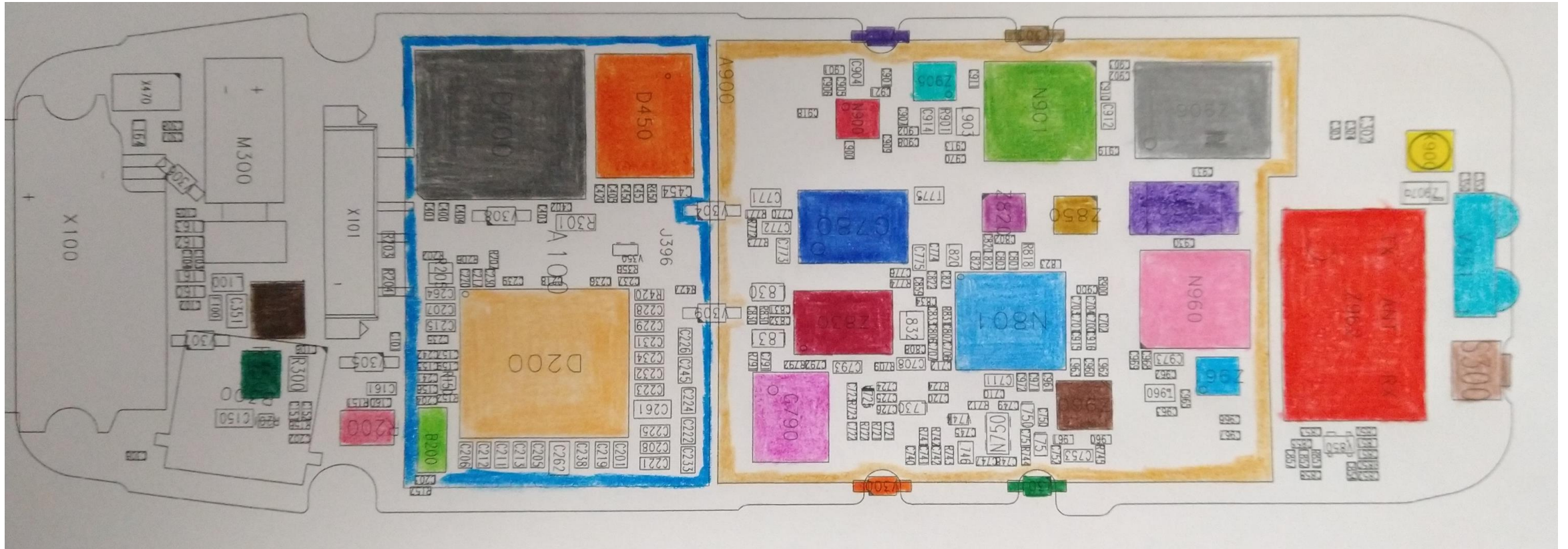
Logic Board color coordinated

Color guide and broken-down logic board

Most of the smaller parts that are not colored are mostly a Chip Resistor and Ceramic Capacitor
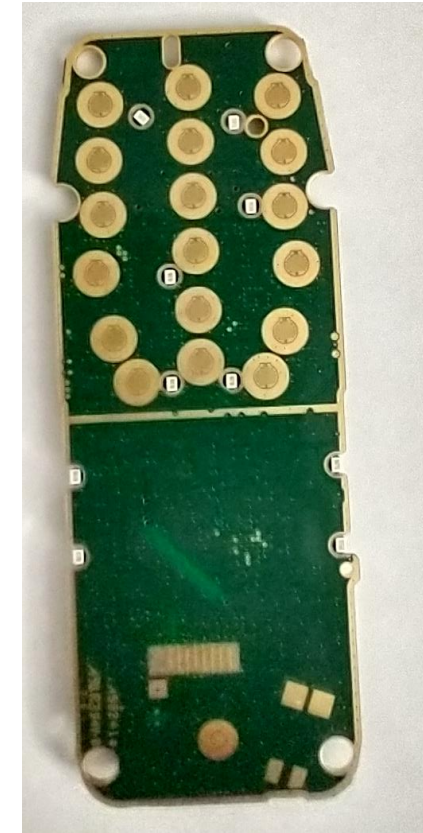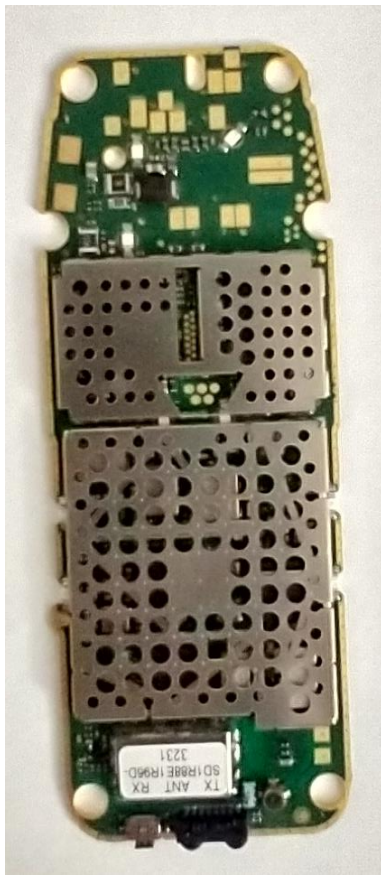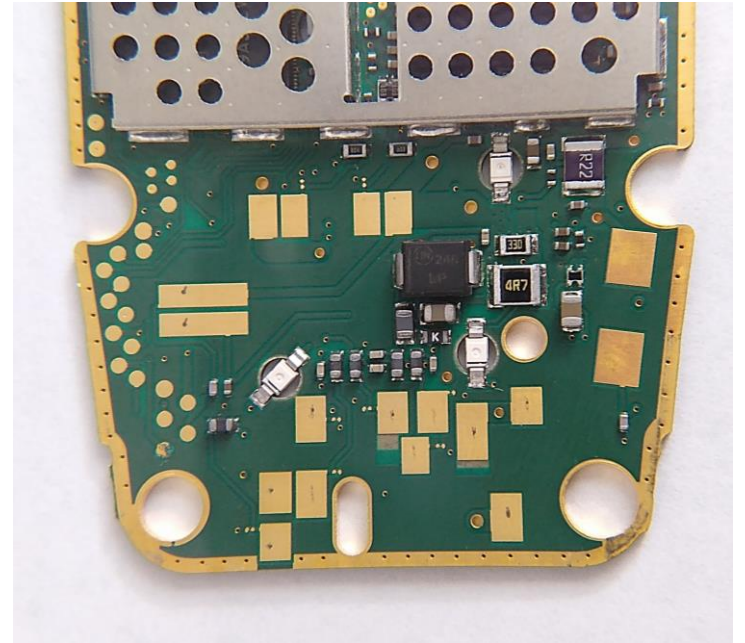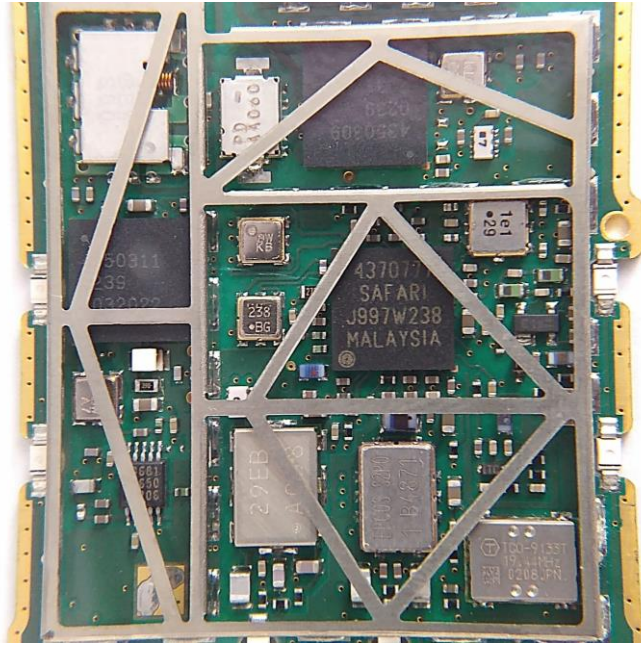
Chip Resistor: is used to detect overflow of electricity or extra battery power. The higher function of a technology piece the more demand there is for the chip resistor to be able to withstand higher power levels.

Ceramic Capacitor: is used for filtration it will filter the signal or frequency current. The capacitator is in the genre of energy storage device.

Color-Coded parts

LEDs(Light-emitting diode): are lights that illuminate when current is run though them. LEDs will allow current to flow though forwards and will not allow current coming back though to be passed though.

Saw Filter (Surface Acoustic Wave): will filter and delay electrical currents as they flow though the phone.

Chip Coil: there are several types of chip coils. Their main purpose is to resist any variation in flow of current. When current is fed to the coil the opposite voltage will be generated in the coil to counter act the current coil.

IC (Integrated circuit): gets voltage from the phone battery and distributes the energy throughout the whole phone to different chips and systems.

L832	3645067	Chip coil	330 n	5 % Q=48/250 MHz 080
L851	3646047	Chip coil	3 n	Q=28/800M 0402
L852	3646051	Chip coil	3 n	Q=28/800M 0402
L900	3646065	Chip coil	12 n	5 % Q=31/800 MHz 040
L901	3646083	Chip coil	100 n	5 % Q=16/300 MHz 040
L902	3646061	Chip coil	15 n	5 % Q=30/800 MHz 040
L903	3645065	Chip coil	5 n	10 % Q=98/1.5GHZ 080
L960	3646075	Chip coil	56 n	5 % Q=21/800 MHz 040
L961	3646075	Chip coil	56 n	5 % Q=21/800 MHz 040
L962	3646083	Chip coil	100 n	5 % Q=16/300 MHz 040
L963	3646083	Chip coil	100 n	5 % Q=16/300 MHz 040
B200	4510219	Crystal	32.768 k	+-30PPM 9PF
G780	4350279	Vco 2ghz 2.78v 10.5ma tdma		
G790	4510307	VCTCXO	19.44 M	+/-2.5PPM 2.78V
F100	5119019	SM, fuse f 1.5a 32v 0603 1.0		1.000
Z820	4511211	Saw filter	881.5+-12.5 M	/3.0DB 3X3
Z830	4511215	Saw filter	135.54+-0.013 M	/5.3DB
Z850	4511213	Saw filter	1960+-30 M	/4.5DB 3X3X1 3x3x1
Z905	4511151	Saw filter	824-849 M	/3.8DB 3X3 3X3
Z906	4512143	Dupl 824-849/869-894mhz 9.5x7.5		9.5x7.5
Z907	4550117	Dipl 824-894/1850-1990mhz 3.2x1.6		3.2x1.6
Z960	4511205	Saw filter	181.8+-0.015 M	3.8X3.8 3.8x3.8
Z961	4511203	Saw filter	1880+-30 M	/5.0DB 3x3x1
Z962	4512147	Dupl 1850-1910/1930-1990mhz 17x10		17x10
T775	4550153	Transf balun 2060+-70mhz 2.0x1.25		2.0x1.25
T960	4550173	Transf balun 1900+-100mhz 2x1.25		2x1.25
V100	4110028	Trans. supr.	16V	23 A 600 W DO214AA
V300	4860231	Led	Green	0'SMD2
V301	4860231	Led	Green	0'SMD2
V302	4860231	Led	Green	0'SMD2
V303	4860231	Led	Green	0'SMD2
V304	4860231	Led	Green	0'SMD2
V305	4860231	Led	Green	0'SMD2
V306	4860231	Led	Green	0'SMD2
V307	4860231	Led	Green	0'SMD2
V308	4860231	Led	Green	0'SMD2
V309	4860231	Led	Green	0'SMD2
V350	4210043	Transistor	DTC143ZE	npn RB V EM3
V351	4860101	Irm1020 2.7-5.5v 9.6kb-1.152mb/s		9.6KB-1.152MB/S
V725	4110953	Cap. diode	1SV280	SOD523
V744	4110911	Cap. diode	MA2SV01	1/3 V SOD523
V850	4210189	Transistor	SOT343	
D200	4370805	Uem v4.4 w-dog ena to09h tfbga168		TFBGA168
D400	4370811	IC, v2.3 f741809c c05 ubga144 uPP		
D450	4341209	IC, flash mem.		
N750	4340233	Mrfic0916 rf amp 2500mhz sot143		SOT143
N801	4370777	IC, a807eegt bicmos6m lfb	SAFARI_T2	LFBGA
N900	4341179	IC, 900mhz (om5968)	tssop10	uPCONV
N901	4350311	IC, pow.amp.	3.5 V	
N930	4350267	Pwr detector module	800/1900mhz	800/1900MHZ
N960	4350309	IC, pow.amp.	3.5 V TDMA	
S300	5209001	SM, sw tact spst 12v 50ma side k	KEY	
X900	5429021	SM, conn rf+sw 100v 1w 50r 2.2gh 2.2GHZ		
A100	9510612	Baseband shield dmd06548 hda62_72HDA62_72		
A900	9517071	RF shield assy dmc02311 hda62_7 HDA62_72		
	9854507	PWB WS8 108X40.84X1.15 M8 4/PA		
	9854507	Pwb ws8 108x40.84x1.15 m8 4/pa		

R157	1430710	Chip resistor	22	5 % 0.063 W 1.000
R200	1419003	Chip resistor	0.22	5 % 1210
R201	1620103	Res network 0w06 2x22r j	0404	0404
R202	1430804	Chip resistor	100 k	5 % 0.063 W 4.000
R203	1430087	Chip resistor	100 k	5 % 0.063 W 2.000
R204	1430087	Chip resistor	100 k	5 % 0.063 W 2.000
R205	1620077	Res network 0w06 2x10k j	0606	0606
R206	1430804	Chip resistor	100 k	5 % 0.063 W 4.000
R207	1430804	Chip resistor	100 k	5 % 0.063 W 4.000
R300	1412173	Chip resistor	33	5 % 0.1 W 1.000
R301	1411669	Chip resistor	22	5 % 0.1 W 1.000
R350	1419009	Chip resistor	4.7	5 % 1210
R356	1430804	Chip resistor	100 k	5 % 0.063 W 4.000
R420	1430268	Chip resistor	27 k	1 % 0.063 W 0603
R422	1430770	Chip resistor	10 k	5 % 0.063 W 2.000

Parts List for Logic board
Not all parts on these lists were highlighted but are still apart of the phone.

Complete
Parts list

Work Cited Page

1. Nokia 3360 Logic Board Replacement - iFixit Repair Guide

2. Nokia 3360 | IT History Society

3. Nokia 3360, 3361 Service Manual 04Parts (manualmachine.com)

4. NOKIA 3360 NPW-1 SCH Service Manual download, schematics, eeprom, repair info for electronics experts (elektrotanya.com)

5. Antenna Nokia 3310 / 3330 / 3410 / 5510 (novexa.pt)

6. https://www.aliexpress.us/item/3256803570113763.html?gatewayAdapt=glo2usa4itemAdapt&_randl_shipto=US

7. Chip resistors that are smaller but which provide more advanced functions are now an important component in solving problems. - Panasonic

8. Why Ceramic Capacitor Are More Popular than Others? | LKR (lkrelec.com)

9. SMD Coil / Inductor – Surface Mount Chip Coil / Inductor Guide (mobilecellphonerepairing.com)

10. What Is IC In Mobile Best Identify Phone IC Trending Tutorial (mobilerepairingonline.com)