

## 1 Subject

<b>Affected Products</b>	conga-SA5
<b>Subject</b>	Hotspots on conga-SA5
<b>Confidential/Public</b>	Confidential
<b>Date (yyyy.mm.dd)</b>	2019.04.26
<b>Author</b>	SPA

## 2 Affected Article Numbers

Affected Number(s)	Product
050000	conga-SA5/E3950-8G eMMC32
050001	conga-SA5/E3940-4G eMMC32
050002	conga-SA5/E3930-2G eMMC16
050022	conga-SA5/N3350-4G eMMC32
050023	conga-SA5/N4200-8G eMMC32

## 3 Information

This CTN provides a hotspot overview of the conga-SA5 modules listed in section 2 "Affected Article Numbers". The thermal images were recorded of the highest TDP conga-SA5 variant (conga-SA5/E3950-8G eMMC32) with a standard congatec cooling solution (CSP) at maximum workload.

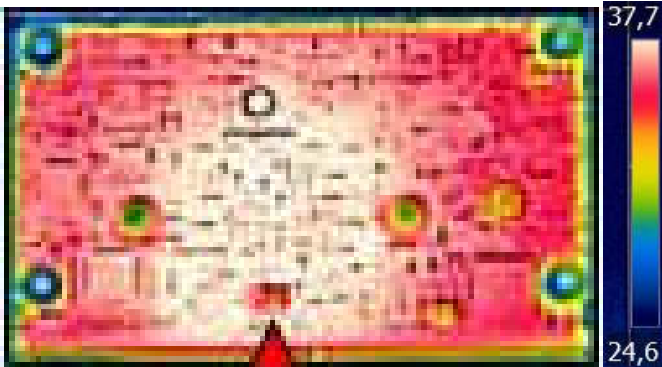
The hotspot overview is based on datasheet information of the relevant components. It is for information purposes only and may change without notice.

### 3.1 Thermal Images

#### 3.1.1 Top Side

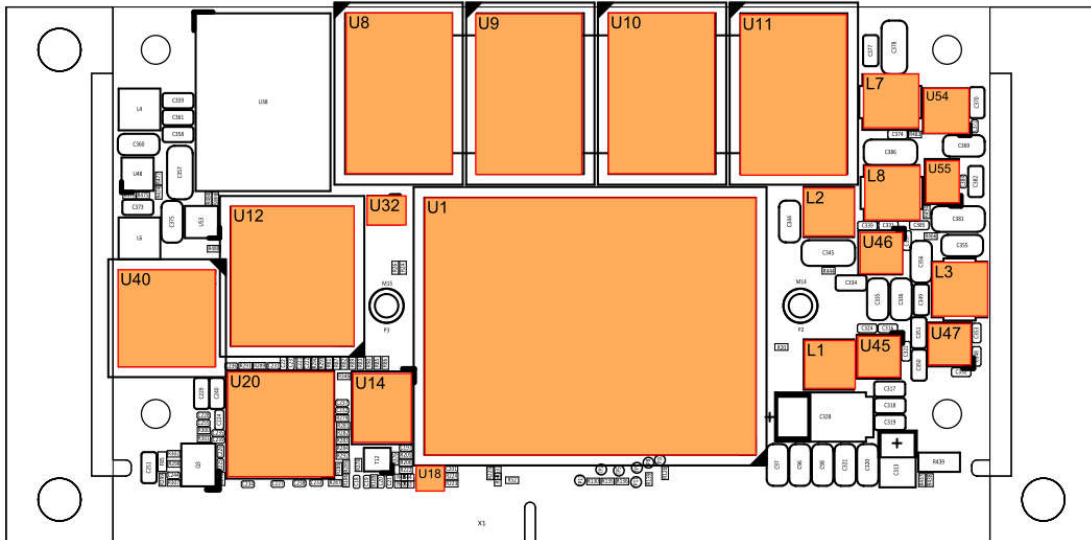


#### 3.1.2 Bottom Side



## 3.2 Hotspot Overview

### 3.2.1 Top Side

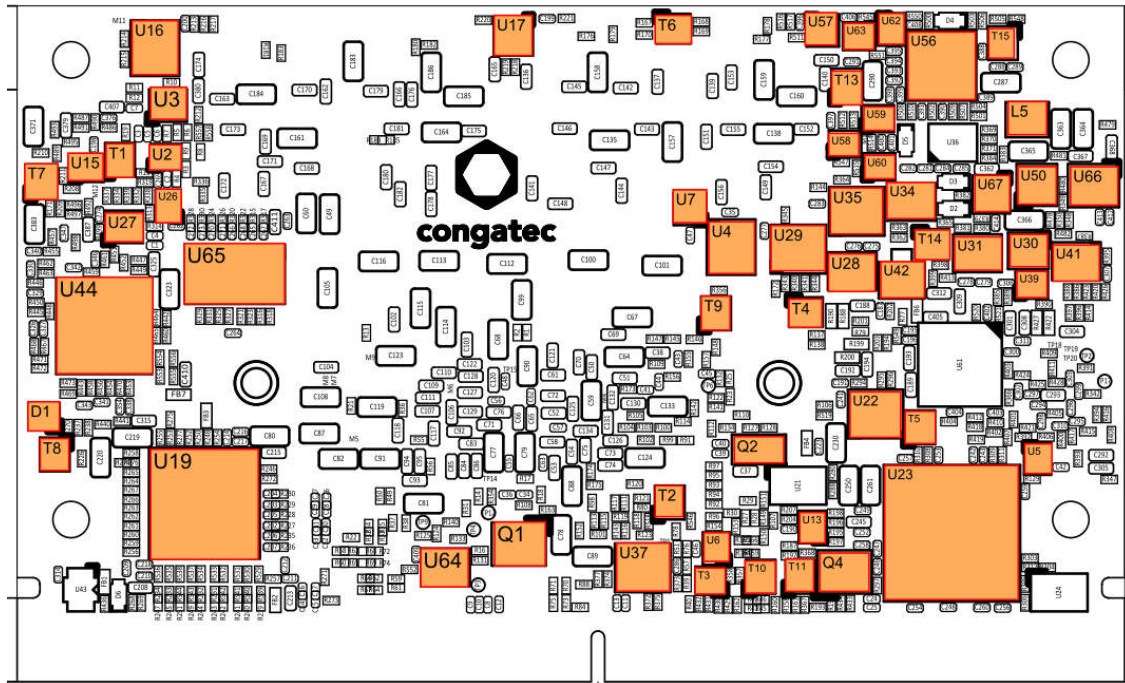


Part	Description	MAX Tjunction	MAX Tcase	MAX Tambient
U1*	Intel Atom SoC	110 °C	98°C	85°C
U1**	Intel Pentium/Celeron SoC	105°C	-	70°C
U8/U9/ U10/U11	LPDDR4 Memory	-	85°C	-
U12	eMMC	-	-	85°C
U14	SPI Flash	-	-	85°C
U18	Multiplexer	-	-	125°C
U20	Ethernet Controller	-	-	70°C
U32	Level Shifter	-	-	125°C
U40	Microcontroller	-	-	85°C
U45/U46 /U47	Power Stage	-	-	125°C
U54/U55	Voltage Regulator	150°C	-	125°C
L1/L2	Inductor	-	-	125°C
L3/L7	Inductor	-	-	125°C
L8	Inductor	-	-	125°C

\* Used on PN 050000, 050001, 050002

\*\* Used on PN 050022, 050023

## 3.2.2 Bottom Side



Part	Description	MAX Tjunction	MAX Tcase	MAX Tambient
U2	Level Shifter	125°C	-	85°C
U3	Multiplexer	-	-	85°C
U4	AND Gate	-	-	125°C
U5/U15	AND Gate	150°C	-	85°C
U6/U13/ U59/U60	Multiplexer	150°C	-	125°C
U7	AND Gate	-	-	85°C
U16/U22/ U29/U35 /U37	Buffer	-	-	125°C
U17	Analog Switch	150°C	-	85°C
U19	LVDS Converter	-	-	85°C
U23	Ethernet controller	-	-	70°C
U28/U30 U31/ U34	Level shifter	-	-	125°C
U39	Inverter	-	-	125°C
U41/U64	Multiplexer	150°C	-	85°C
U42	Voltage Reference	150°C	-	125°C

U44	Voltage Regulator	-	-	125°C
U50	Voltage Regulator	-	-	125°C
U56	Voltage Supervisor	-	-	125°C
U57	Flip-Flop	-	-	85°C
U58	AND Gate	-	-	125°C
U62/U63	OR Gate	-	-	125°C
U65	Level Shifter	125°C	-	85°C
U66	Load Switch	150°C	-	85°C
U67	Load Switch	125°C	-	105°C
T1/T2/T3/ T4/T5/T6 /T7/T8/ T9/T10/ T11/T14/ T15	MOSFET	150°C	-	-
D1	Diode	150°C	-	-
Q1/Q2/ Q4	Clock Crystal	-	-	85°C

## 4 Revision History

Revision	Date (yyyy.mm.dd)	Author	Changes
1.0	2019.04.26	SPA	Initial release