

Programmes After Market Services NHM-5NX Series Transceivers

Component Handling

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Introduction

The purpose of this document is to describe how to handle special components in the After Market Service.

CSP – μ BGA Packages:

MicroBGA (CSP) in HDa12 products are moisture and electrostatic sensitive components which need to be handled in a special way in production and in After Sales.

CSP components soldering needs a special MicroBGA soldering station

When any CSP component is replaced it must first be baked using a high temperature device container at 125 Celsius for 24 hours prior to assembly. If baking operation is not performed then the soldering process may not be successful, and the CSP component might suffer internal stress, and eventually break down. Whenever a vacuum pack is opened, use the component within 48 hours.

Standby for soldering temperature in oven for CSP should be 60° C continuously.

Components should not be baked more than once if using the high temperature bake of 125° C for 24 hours.

Spare parts stock of CSPs must be stored in a sealed, vacuumpacked, ESD protected (metallized) plastic bag and handled as electrostatic sensitive components.

Relative Humidity: 15% - 70% RH0

Temperature: -5°C - +40°C

Sulphur dioxide average 0.3 mg/m³

Sulphuretted hydrogen average 0.1 mg/m³

CSP components have 12 months shelf life after sealing date in vacuum pack.

IMPORTANT: Precautions have to be taken when handling the component, like do not touch the component with bare hands, and always wear a grounded wrist or leg band.

Affected Hda12 Items (CSP Packages)

Affected items are all Keycomponents in HDa12.

NMP code for CSP Packages:

4370467	CCONT2I WFD163KG64T/8 LFBGA8X8
4370621	CHAPS CHARG. CONTROL
4370643	COBBA_GJP ASIC V4.1
4370559	COBBA_GJP ASIC V4.0
4370599	HAGAR 06 TZZ8 BICMOS6 UBGA80_8X8
4340903	SRAM
4340911	Flash

Other Packages:

TSSOP, TQFP, SOT 23, SOT 323 ... etc.

All Surface Mounted components in HDa12 must be handled as electrostatic sensitive components. They must be stored in a sealed ESD protected (metallized) plastic bag or be Taped up.

Relative Humidity: 15% - 70% RH
Temperature: -5°C - +40°C
Sulphur dioxide average 0.3 mg/m³
Sulphuretted hydrogen average 0.1 mg/m³

Manual Hot Gas Soldering

Max. air temperature: +270°C
Max. air velocity: 10m/s
Max. exposure time: 30s.

Manual Soldering with Soldering Iron

Tip diameter: Selected to fit application
Max. Tip temperature: +270°C
Max. exposure time: 5s

Do not touch the component directly with soldering iron.

Do not touch the component with bare hands, and always wear a grounded wrist or leg band.

Affected HDa12 Items

Affected parts are all Keycomponents in HDa12.

NMP code for other packages than μ BGA Packages:

4370433	UI SWITCH ASIC
4340761	Voltage monitor
4510297	VCTCXO 26MHZ+-5PPM 2.7V GSM
4510275	VCTCXO 26MHZ+-5PPM 2.7V GSM
4350259	PW AMP 1800MHZ 3.6V EGSM/DCS1800 BGY 270
4350249	VCO 3420-3840MHZ 2.7V 20MA
4511179	DUAL SAW FILT925-960/1805-1880MHZ
4511181	DUAL SAW FILT925-960/1805-1880MHZ
4550131	Front End Device Dual Switch
4550201	Front End Device Dual Switch
4210281	GSM LNA transistor
4210275	PCN LNA transistor

Speaker

Always store the speaker in the tray.

The tray is designed to fix the speaker, with a minimum spacing to avoid snapping together and it is the only secure way to handle them in larger quantities.

Avoid touching the membrane.

The Membrane is a 20 μ m thin film with a well defined shape which must not be changed. It is obviously, that very small forces are able to affect the shape of the membrane in reversible. Such deformations can be seen in most cases viewing the membrane against light using it as a mirror.

Avoid snapping speakers together. Due to magnetic forces the speakers like to snap together when they are placed to close, e.g. at Service Centres, in boxes without tray or when a pile of trays is shocked by rigid handling. When snapped together the contacts of one speaker are pressed into the membrane of the other one - see above.

This is the most likely case for damaged membranes / poor performance of the speaker. So when ever there are speakers snapped together they have to be considered as scrap.

Recommendation: put speakers back to a tray whenever they are taken out of the phone due to maintenance / repair actions.

How to handle the speaker

- use the magnetic field to fix them to an iron sheet.
- manually by touching the outside diameter.
- by gently pressing the backside - avoid deformation of spring contacts to a height of less than 1 mm above speaker housing rim.

Mechanical Parts

All parts must be stored in the originally packaging wether it is Tape and Reel, Trays, Boxes or other similar packages and should stay there untill use. Recommended NMP storage conditions are 25°C ± 5°C and relative humidity of 30%-60%. Please be aware that parts to be soldered onto the PCB (Shields) have to be stored in such a way that the parts keep the Coplanarity.

Determination of coplanarity: deviation between all solderable areas/leads and seating plane (seating plane = reference plane formed by three lowest contact points when component lies on flat surface by its own weight).

Coplanarity specification: deviation max 0.15mm.

Affected Hda12 Mechanical Parts

9517062	PA-shield assy
9517064	RF shield assy
9517063	BB-shield assy
9451807	A –COVER ASSEMBLY
9451797	B-COVER ASSEMBLY
9451790	D-COVER ASSEMBLY
5460039	SYSTEM CONNECTOR
5400169	SIM READER
5409153	BATTERY CONNECTOR
5140191	BUZZER ASSEMBLY
6800049	VIBRA ASSEMBLY
9790420	KEYMAT (FILM)