

## CTIA Certification Program Working Group Liaison Statement

To	Global Certification Forum (GCF) PAG
CC	3GPP RAN4
Source	CTIA OTA Working Group
Subject	Response LS to 10DCR-General-043 on CTIA Wide-Hand Phantom
Date	05 January 2017

### 1. Introduction

The CTIA OTA Working Group would like to thank GCF PAG for the LS on CTIA Wide-Hand Phantom and take this opportunity to provide the GCF PAG with input concerning this topic.

### 2. Discussion

There is a discontinuity in OTA performance between PDA and wide hand phantoms. CTIA test plan v3.6.1 [1] captures this discontinuity in the following statement:

*“The differences between requirements for devices wider and narrower than 72 mm reflect observed differences in OTA performance with different hand phantoms of up to 6 dB”*

At the design stage of wide hand phantoms, discontinuity in OTA performance between PDA and wide hand phantoms have been minimised, but cannot be eliminated completely. For example, two wide hand phantom designs were made [2] and the one with better continuity in OTA performance was chosen for inclusion in [1].

The reasons for the discontinuity in OTA performance are

- (a) different shapes of excision for holding devices, leading to different palm contact areas and grips between PDA and wide hand phantoms.
- (b) different volumes because larger size phantom would incur additional loss.

Various OTA performance comparisons between PDA and wide hand phantoms have been made, e.g. [3], [4] and [5].

As a result, [1] proposes different OTA requirement values for devices wider and narrower than 72mm, respectively.

### 3. Actions

None

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Date of Next CTIA OTA Working Group Meeting:

10 January 2017, Teleconference

7 February 2017, Teleconference

References:

[1] CTIA Test Plan for Wireless Device Over-the-Air Performance, Version 3.6.1, November 2016 (publicly available at <http://www.ctia.org/initiatives/certification/certification-test-plans>)

**Note: The contributions below are CTIA Working Group Documents available to CTIA Working Group members.**

[2] CPWG141031-1 “Revised Simulation Comparison of Wide Grip Hand Phantom Designs”, October 2014

[3] CPWG150605-1 “OTA Measurements with Wide Grip Hand Phantom”, June 2015

[4] CPWG150602-2 “TRP Measurements using Wide Grip Hand Phantoms – Round 2”, June 2015

[5] CPWG150707-4 “Experimental measurements comparing results obtained using standard PDA hand Vs Wide PDA hand ver.2”, July 2015