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| **Addendum 4 to Circular Letter**  **5/LCCE/****2** | 7 December 2010 |

To Administrations of Member States of the ITU, Radiocommunication Sector  
Members and ITU Associates participating in the work  
of Radiocommunication Study Group 5

**Subject:** Announcement of the IMT-Advanced radio interface technologies resulting from the successful completion of Steps 4 through 7 of the IMT-Advanced process, the availability of Report ITU-R M.2198[[1]](#footnote-1), and information on Step 8 of the IMT-Advanced process

# 1 Introduction

The first invitation for the submission of proposals for candidate radio interface technologies (RITs) or sets of RITs (SRITs) for the terrestrial components of IMT-Advanced was issued with Circular Letter 5/LCCE/2 on 7 March 2008. The Circular Letter initiated an ongoing process to evaluate the candidate RITs or SRITs for IMT-Advanced. It also invited the formation of Independent Evaluation Groups and the subsequent submission of evaluation reports on these candidate RITs or SRITs.

On 13 August 2008, [Addendum 1 to Circular Letter 5/LCCE/2](http://www.itu.int/md/R00-SG05-CIR-0002/en) announced the availability of further information associated with the IMT-Advanced submission and evaluation process.

On 18 December 2008, [Addendum 2 to Circular Letter 5/LCCE/2](http://www.itu.int/md/R00-SG05-CIR-0002/en) announced the availability of three ITU-R Reports that provide details of the IMT-Advanced requirements, evaluation criteria, and submission templates.

On 9 November 2009, [Addendum 3 to Circular Letter 5/LCCE/2](http://www.itu.int/md/R00-SG05-CIR-0002/en) announced the receipt of proposals for candidate radio interface technologies for the terrestrial components of the radio interface(s) for IMT-Advanced and the next steps in the IMT-Advanced process.

This Addendum announces the technologies for IMT-Advanced that have successfully completed Steps 4 through 7 of the IMT-Advanced process and are now designated as IMT-Advanced. It also highlights the planned next steps for the work in Step 8, following the IMT-Advanced process detailed in Document IMT-ADV/2(Rev.1).

# 2 Completion of Steps 4-7 of the IMT-Advanced process documented in Report ITU-R M.2198

Report ITU-R M.2198 is the record of the work performed after receipt of the proposals for IMT‑Advanced candidate radio interface technologies, including the evaluation activity and the consensus building. This document contains the outcome and conclusions of Steps 4-7 of the IMT‑Advanced process, as outlined in Document IMT-ADV/2(Rev.1). The Report provides the technical characteristics of the candidate radio interface technologies and states the decisions reached by the ITU-R on each of the candidate proposals. Note that the actual specifications of the agreed IMT-Advanced radio interfaces will be contained in Recommendation ITU-R M.[IMT.RSPEC], to be developed in 2011 under Step 8 of the IMT-Advanced process.

Under the IMT-Advanced process, ITU-R has concluded the detailed evaluation of the candidate RITs and SRITs by evaluation groups (Step 4), finished the review and coordination of outside evaluation activities (Step 5), concluded a review to assess compliance with minimum requirements (Step 6), completed consultation on the evaluation results and consensus building and rendered a decision (Step 7) on those technologies that should move forward into Step 8.

# 3 Announcement of IMT-Advanced technologies, results of consensus building, and the way forward for Step 8

Steps 4 through 7 of the IMT-Advanced process have been concluded.

Each of the six candidate technology submissions (and their respective SRIT or RITs) has individually satisfied Steps 4 through 7 of the IMT-Advanced process successfully and thus each of these IMT-Advanced candidate technology submissions has the opportunity to proceed to Step 8. The six candidate technology submissions are contained in the following six acknowledgement documents:

– IMT-ADV/4 – Acknowledgement of candidate submission from IEEE under Step 3 of the IMT-Advanced process (IEEE Technology).

– IMT-ADV/5 – Acknowledgement of candidate submission from Japan under Step 3 of the IMT-Advanced process (IEEE Technology).

– IMT-ADV/6 – Acknowledgement of candidate submission from Japan under Step 3 of the IMT-Advanced process (3GPP Technology).

– IMT-ADV/7 – Acknowledgement of candidate submission from TTA under Step 3 of the IMT-Advanced process (IEEE Technology).

– IMT-ADV/8 – Acknowledgement of candidate submission from 3GPP proponent (3GPP Organization Partners of ARIB, ATIS, CCSA, ETSI, TTA AND TTC) under Step 3 of the IMT-Advanced process (3GPP Technology).

– IMT-ADV/9 – Acknowledgement of candidate submission from China (People’s Republic of) under Step 3 of the IMT-Advanced process (3GPP Technology).

Additionally, consensus building has been performed during Step 7 with the objective of achieving global harmonization and having the potential for wide industry support for the radio interfaces that are developed for IMT-Advanced.

As a result of the consensus building during Step 7 in ITU-R among the six technology proposals, the following two groupings were agreed by ITU-R:

– the RITs and SRITs proposed in IMT-ADV/6, IMT-ADV/8 and IMT-ADV/9 were grouped into the technology identified in ITU as ***“LTE-Advanced”[[2]](#footnote-2),*** developed by the Third Generation Partnership Project (3GPP); and

– the RITs proposed in IMT-ADV/4, IMT-ADV/5 and IMT-ADV/7 were grouped into the technology identified in ITU as ***“WirelessMAN-Advanced”***[[3]](#footnote-3), developed by IEEE.

Thus, the final outcome of Steps 4-7 of the IMT-Advanced process was the approval of the technologies ***“LTE-Advanced”*** and ***“WirelessMAN-Advanced”*** as IMT-Advanced technologies.

In addition, both ***“LTE-Advanced”*** and ***“WirelessMAN-Advanced”*** were accepted for inclusion in the standardization phase of the IMT-Advanced process and are proceeding to Step 8 and to subsequent development of IMT-Advanced.

It was noted that:

– the basis for specifying the ***“LTE-Advanced”***technology in Step 8 is Document IMT‑ADV/8, which is technically identical to IMT-ADV/6 and IMT-ADV/9 (except that IMT-ADV/9 contains only the TDD RIT component); and

– the basis for specifying the ***“WirelessMAN-Advanced”***technology in Step 8 is Document IMT‑ADV/4, which is technically identical to IMT-ADV/5 and IMT-ADV/7.

Note that the documentation discussed herein is available on the ITU-R IMT-Advanced web page (<http://www.itu.int/itu-r/go/rsg5-imt-advanced>).

Further details are included in Report ITU-R M.2198.

# 4 IMT-Advanced process and timing for Step 8

Under the IMT-Advanced process, the ITU-R will now undertake the standardization phase of IMT‑Advanced to be completed in Step 8 of the process. This entails the development of radio interface Recommendation(s).

Work is underway towards finalizing Recommendation ITU-R M.[IMT.RSPEC] (*“Detailed specifications of the terrestrial radio interfaces of IMT-Advanced”)* by year-end 2011, for approval at the Radiocommunication Assembly in January 2012. Guidance for the use of a Global Core Specification (GCS)[[4]](#footnote-4), references, and related notifications and certifications that are to be provided for ITU-R M.[IMT.RSPEC] is available in Document IMT-ADV/24 *(“Process and the use of Global Core Specification (GCS), references and related certifications in conjunction with Recommendation ITU-R M.[IMT.RSPEC]”).*

A view of the overall IMT-Advanced steps may be found at <http://www.itu.int/oth/R0A06000012/en>.

# 5 Updates to the ITU-R IMT-Advanced web page

Any future changes will be announced in Addenda to this Circular Letter or will be updated dynamically on the IMT-Advanced web page (<http://www.itu.int/ITU-R/go/rsg5-imt-advanced/>), as appropriate. Consequently, participants in the IMT-Advanced development activities are kindly requested to periodically check that web page.

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**Distribution:**

– Administrations of Member States of the ITU and Radiocommunication Sector Members participating in the work of  
Radiocommunication Study Group 5

– ITU-R Associates participating in the work of Radiocommunication Study Group 5

– Chairman and Vice-Chairmen of Radiocommunication Study Group 5

– Secretary-General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

1. Report ITU-R M.2198“*The outcome of the evaluation, consensus building and decision of the IMT-Advanced Process(steps 4-7) including characteristics of IMT-Advanced radio interfaces”*  [↑](#footnote-ref-1)
2. Developed by 3GPP as *LTE Release 10 and Beyond (LTE-Advanced)*. [↑](#footnote-ref-2)
3. Developed by IEEE as the *WirelessMAN-Advanced* specification incorporated in IEEE Std 802.16 beginning with approval of IEEE Std 802.16m. [↑](#footnote-ref-3)
4. A “GCS” (Global Core Specification) is the set of specifications that defines a single RIT, an SRIT, or a RIT within an SRIT. [↑](#footnote-ref-4)