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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Mobile Standards Group (MSG).

Modal verbs terminology

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Introduction

The present document presents the justification for the selection of the technical requirements within the Harmonised Standard for Base Stations under the guidance of ETSI EG 203 336 [i.2].

1 Scope

The present document describes why some parameters in the ETSI Guide [i.2] and 3GPP specifications [i.28] and [i.32] have not been included in the Base Station Harmonised Standards for E-UTRA [i.3], MSR [i.4], AAS [i.5] and NR [i.6].

2 References

2.1 Normative references

Normative references are not applicable in the present document.

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long-term validity.

The following referenced documents are not necessary for the application of the present document, but they assist the user with regard to a particular subject area.

[i.1] Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC (OJ L153, 22.5.2014, p.62).

[i.2] ETSI EG 203 336 (V1.2.1) (2020-05): "Guide for the selection of technical parameters for the production of Harmonised Standards covering article 3.1(b) and article 3.2 of Directive 2014/53/EU".

[i.3] ETSI EN 301 908-14 (V15.1.1) (2021-09): "IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 14: Evolved Universal Terrestrial Radio Access (E-UTRA) Base Stations (BS) Release 15".

[i.4] ETSI EN 301 908-18 (V15.1.1) (2021-09): "IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 18: E-UTRA, UTRA and GSM/EDGE Multi-Standard Radio (MSR) Base Station (BS) Release 15".

[i.5] ETSI EN 301 908-23 (V15.1.1) (2022-09): "IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 23: Active Antenna System (AAS) Base Station (BS); Release 15".

[i.6] ETSI EN 301 908-24 (V15.1.1) (2022-09): "IMT cellular networks; Harmonised Standard for access to radio spectrum Part 24: New Radio (NR) Base Stations (BS) Release 15".

[i.7] Recommendation ERC 74-01 (2019-05): "Unwanted emissions in the spurious domain".

[i.8] Commission Implementing Decision (EU) 2019/235 of 24 January 2019 on amending Decision 2008/411/EC as regards an update of relevant technical conditions applicable to the 3 400-3 800 MHz frequency band.

[i.9] ETSI TS 103 807 (V1.1.1) (2021-06): "Mobile Standards Group (MSG); IMT Cellular Networks Base Stations (BS) Additional Regulatory Requirements".

[i.10] Commission Implementing Decision (EU) 2016/687 of 28 April 2016 on the harmonisation of the 694-790 MHz frequency band for terrestrial systems capable of providing wireless broadband electronic communications services and for flexible national use in the Union.

[i.11] ECC Decision (15)01: "Harmonised technical conditions for mobile/fixed communications networks (MFCN) in the band 694-790 MHz including a paired frequency arrangement (Frequency Division Duplex 2x30 MHz) and an optional unpaired frequency arrangement (Supplemental Downlink)", Approved 06 March 2015.

[i.12] Commission Decision 2010/267/EU of 6 May 2010 on harmonised technical conditions of use in the 790-862 MHz frequency band for terrestrial systems capable of providing electronic communications services in the European Union.

[i.13] ECC Decision (09)03: "Harmonised conditions for mobile/fixed communications networks (MFCN) operating in the band 790 - 862 MHz", 30 October 2009.

[i.14] Commission Implementing Decision (EU) 2018/661 of 26 April 2018 amending Implementing Decision (EU) 2015/750 on the harmonisation of the 1452-1492 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Union as regards its extension in the harmonised 1427-1452 MHz and 1492-1517 MHz frequency bands.

[i.15] ECC Decision (13)03: "The harmonised use of the frequency band 1 452-1 492 MHz for Mobile/Fixed Communications Networks Supplemental Downlink (MFCN SDL)".

[i.16] ECC Decision 17(06): "The harmonised use of the frequency bands 1 427-1 452 MHz and 1492-1518 MHz for Mobile/Fixed Communications Networks Supplemental Downlink (MFCN SDL)", Approved 17 November 2017, corrected 2 March 2018.

[i.17] Implementing Decision 2011/251/EU amending Decision 2009/766/EC on the harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community.

NOTE: Available at Uitvoeringsbesluit 2011/251 - Wijziging van Beschikking 2009/766/EG betreffende de harmonisatie van de 900 MHz- en de 1800 MHz-frequentieband voor terrestrische systemen die pan-Europese elektronische communicatiediensten kunnen verschaffen in de EG - EU monitor.

[i.18] ECC Decision (06)13: "Designation of the bands 880-915 MHz, 925-960 MHz, 1710-1785 MHz and 1805-1880 MHz for terrestrial UMTS, LTE, WiMAX and IoT cellular systems", Approved 01 December 2006, Amended 8 March 2019.

[i.19] Commission Implementing Decision (EU) 2020/667 of 6 May 2020 amending Decision 2012/688/EU as regards an update of relevant technical conditions applicable to the frequency bands 1 920-1 980 MHz and 2 110-2 170 MHz.

[i.20] ECC Decision (06)01: "The harmonised utilisation of the bands1920-1980 MHz and 2110-2170 MHz for mobile/fixed communications networks (MFCN) including terrestrial IMT systems", Approved 24 March 2006, Amended 8 March 2019.

[i.21] ECC Decision 14(02): "Harmonised technical and regulatory conditions for the use of the band 2 300-2 400 MHz for Mobile/Fixed Communications Networks (MFCN)", Approved 27 June 2014.

[i.22] Commission Implementing Decision (EU) 2020/636 of 8 May 2020 amending Decision 2008/477/EC as regards an update of relevant technical conditions applicable to the 2 500-2 690 MHz frequency band.

[i.23] ECC Decision 05(05): "Harmonised utilization of spectrum for Mobile/Fixed Communications Networks (MFCN) operating within the band 2 500-2 690 MHz", Approved 18 March 2005, Amended 05 July 2019.

[i.24] ECC Decision 11(06): "Harmonised frequency arrangements and least restrictive technical conditions (LRTC) for mobile/fixed communications networks (MFCN) operating in the band 3400-3800 MHz" Approved 09 December 2011, Amended 26 October 2018.

[i.25] Commission Implementing Decision (EU) 2020/590 of 24 April 2020 amending Decision (EU) 2019/784 as regards an update of relevant technical conditions applicable to the 24,25-27,5 GHz frequency band.

[i.26] ECC Decision 18(06): "Harmonised technical conditions for Mobile/Fixed Communications Networks (MFCN) in the band 24,25 - 27,5 GHz", Approved 06 July 2018, Last amended 20 November 2020.

[i.27] ECC Decision 06(09): "Designation of the bands 1980-2010 MHz and 2170-2200 MHz for use by systems in the Mobile-Satellite Service including those supplemented by a Complementary Ground Component (CGC)", Approved 01 December 2006, Amended 05 September 2007.

[i.28] ETSI TS 125 104 (V17.0.0) (2022-04): "Universal Mobile Telecommunications System (UMTS); Base Station (BS) radio transmission and reception (FDD) (3GPP TS 25.104 version 17.0.0 Release 17)".

[i.29] ETSI TS 136 104 (V17.5.0) (2022-04): "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) radio transmission and reception (3GPP TS 36.104 version 17.5.0 Release 17)".

[i.30] ETSI TS 137 104 (V17.5.0) (2022-04): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; NR, E-UTRA, UTRA and GSM/EDGE; Multi-Standard Radio (MSR) Base Station (BS) radio transmission and reception (3GPP TS 37.104 version 17.5.0 Release 17)".

[i.31] ETSI TS 137 105 (V17.5.0) (2022-04): "Universal Mobile Telecommunications System (UMTS); LTE; 5G; Active Antenna System (AAS) Base Station (BS) transmission and reception (3GPP TS 37.105 version 17.5.0 Release 17)".

[i.32] ETSI TS 138 104 (V17.5.0) (2022-04): "5G; NR; Base Station (BS) radio transmission and reception (3GPP TS 38.104 version 17.5.0 Release 17)".

[i.33] Recommendation ITU-R SM.328: "Spectra and bandwidth of emissions".

[i.34] ETSI TS 138 141-1 (V17.5.0) (2022-04): "5G; NR; Base Station (BS) conformance testing Part 1: Conducted conformance testing (3GPP TS 38.141-1 version 17.5.0 Release 17)".

[i.35] ETSI TS 138 141-2 (V17.5.0) (2022-04): "5G; NR; Base Station (BS) conformance testing Part 2: Radiated conformance testing (3GPP TS 38.141-2 version 17.5.0 Release 17)".

[i.36] Radio Regulations of the International Telecommunication Union ITU.

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the following terms apply:

beam: main lobe of the radiation pattern of an *antenna array*

NOTE: For certain BS *antenna array*, there may be more than one *beam*.

beamwidth: *beam* which has a half-power contour that is essentially elliptical, the half-power beamwidths in the two pattern cuts that respectively contain the major and minor axis of the ellipse

BS class: classification of BS according to its intended use

NOTE: There are three *BS classes* in the present document: *wide area Base Station*, *medium range Base Station* and *local Area Base Station.*

carrier aggregation: aggregation of two or more component carriers in order to support wider *transmission bandwidths*

local area Base Station: Base Stations characterized by requirements derived from picocell scenarios with a BS to UE minimum coupling loss equal to 45 dB

medium range Base Station: Base Stations characterized by requirements derived from micro cell scenarios with a BS to UE minimum coupling loss equal to 53 dB

operating band: frequency range in which BS operates (paired or unpaired), that is defined with a specific set of technical requirements

TAB connector: *transceiver array boundary* connector

transceiver array boundary: conducted interface between the transceiver unit array and the composite antenna

transmission bandwidth: RF Bandwidth of an instantaneous transmission from a UE or BS, expressed in resource block units

NOTE: It is used as a frequency reference point for both transmitter and receiver requirements.

transmitter OFF period: time period during which the BS transmitter is not allowed to transmit

transmitter ON period: time period during which the BS transmitter is transmitting data and/or reference symbols

transmitter transient period: time period during which the transmitter is changing from the OFF period to the ON period or vice versa

wide area Base Station: Base Stations characterized by requirements derived from Macro Cell scenarios with a BS to UE minimum coupling loss equal to 70 dB

3.2 Symbols

For the purposes of the present document, the following symbols apply:

Eb/No	Energy per bit to noise power spectral density ratio

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

3GPP	3rd Generation Partnership Project
AAS	Active Antenna System
ACLR	Adjacent Channel Leakage power Ratio
ACS	Adjacent Channel Selectivity
ADC	Analog-to-Digital Converter
AWGN	Average White Gaussian Noise
BS	Base Station
DDC	Digital Down Conversion
DL	Downlink
EG	ETSI Guide
EU	European Union
E-UTRA	Evolved UTRA
EVM	Error Vector Magnitude
FR1	Frequency Range 1
FR2	Frequency Range 2
ITU-R	Radiocommunication sector of the International Telecommunication Union
LO	Local Oscillator
MIMO	Multiple Input Multiple Output
MSG	Mobile Standards Group
MSR	Multi Standard Radio
NR	New Radio

NOTE: Also known as 5G.

OBUE	Operating Band Unwanted Emissions
RBW	Resolution Bandwidth
RE	Resource Element
RF	Radio Frequency
RIS	Radio Interface Specification
SNR	Signal to Noise Ratio

TAB	Transceiver Array Boundary
TDD	Time Division Duplex
TR	Technical Report
UE	User Equipment
UL	Uplink
UTRA	UMTS Terrestrial Radio Access

4 Technical parameters

4.1 General

The essential requirement in article 3.2 of Directive 2014/53/EU [i.1] states:

"Radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference."

When deciding which transmitter parameters have been included, justification for the requirements in relation to transmitters is given by recital 10 of the Directive, which states:

"…when the transmitter is properly installed, maintained and used for its intended purpose it generates radio waves emissions that do not create harmful interference, while unwanted radio waves emissions generated by the transmitter (e.g. in adjacent channels) with a potential negative impact on the goals of radio spectrum policy should be limited to such a level that, according to the state of the art, harmful interference is avoided."

The intention of the essential requirements in article 3.2 of Directive 2014/53/EU [i.1] in relation to a receiver is explained in recitals 10 and 11 of the Directive, which state:

"...in the case of a receiver, it has a level of performance that allows it to operate as intended and protects it against the risk of harmful interference, in particular from shared or adjacent channels, and, in so doing, supports improvements in the efficient use of shared or adjacent channels. Although receivers do not themselves cause harmful interference, reception capabilities are an increasingly important factor in ensuring the efficient use of radio spectrum by way of an increased resilience of receivers against harmful interference and unwanted signals on the basis of the relevant essential requirements of Union harmonisation legislation."

As such, in the following, efficient use of spectrum for the receiver is then considered in the scope of increasing resilience of receivers against harmful interference and unwanted signals, and not maximizing data throughput performance.

4.2 ETSI Guide parameters

4.2.1 Introduction

The parameters under article 3.2 of Directive 2014/53/EU [i.1] listed in ETSI EG 203 336 [i.2] are analysed in the following clauses.

4.2.2 Transmitter power limits

Transmitter power limits for BS are not considered in the Harmonised Standards as most spectrum decisions [i.8] to [i.27] have no obligatory limit on in-band power, where in-band power limits apply in the spectrum decision these of course apply. In addition, power limits are defined in national Radio Interface Specifications (RIS) and also in individual or general licence authorizations, and these apply.

As transmitter power accuracy is specified and measured, no separate maximum transmitter power requirement or test is needed.

4.2.3 Transmitter frequency stability

The frequency stability could impact the radio system transmitter's ability to occupy a specified bandwidth at its own assigned portion of frequency (channel bandwidth), without leaking into adjacent channels. The frequency error requirement defined in 3GPP [i.28] to [i.32] is on the order of 0,05 to 0,1 ppm (0,05 ppm corresponds to 100 Hz at 2 GHz carrier signal). This accuracy is related to the cell search and initial access and is not relevant for harmful interference or efficient use of spectrum, since it is several orders of magnitude stricter than what would be needed to ensure that the transmitter occupies its assigned channel without leaking into adjacent channels. The already included ACLR and OBUE requirements ensure that the transmitter's power does not adversely leak into adjacent channels. For this reason, a requirement on transmitter frequency stability is not considered for inclusion in the Harmonised Standards.

4.2.4 Transmitter intermodulation attenuation

The FR1 BS Harmonised Standards include requirements for transmitter intermodulation for both conducted and radiated requirements.

For FR2 radiated requirements, there is no transmitter intermodulation requirement as high isolation path loss due to the high mm-wave frequencies in the co-location scenarios mean the signal coupled between co-located antennas is so low that a transmitter capable of meeting the other RF linearity requirements will easily meet the emissions requirements under such a low level reverse interferer, as such no transmitter intermodulation requirement is necessary.

4.2.5 Transmitter time domain characteristics

The Harmonised Standard does not include transmitter time domain characteristics; however, transmit ON/OFF power is specified in 3GPP, e.g. [i.34] and [i.35].

The UTRA/E-UTRA/NR system uses fixed channels and does not use frequency hopping, so time domain alignment cannot interfere with other channels.

For TDD operation, a power mask is defined for the BS output power, defining the OFF power level during the uplink subframes and the maximum time for the transmitter transient period between the transmitter ON and OFF states. The transmit OFF power is the power measured over the transmission bandwidth when the transmitter is OFF. The transmitter transient period is the time period during which the transmitter is changing from the OFF period to the ON period or vice versa.

Both requirements would protect reception phase from transmission phases, enabling TDD operations inside the Base Station channel bandwidth. For this reason, transmitter ON/OFF power requirement is not relevant for harmful interference or efficient use of spectrum.

4.2.6 Transmitter transients

The Harmonised Standard does not include transmitter transient's technical requirements, and it is also not included in the 3GPP requirements.

For BS operating in TDD mode, the time required to switch between UL and DL or transmit and receive is specified in 3GPP [i.28] to [i.32] as transmit transient period and is in the order of 10 microseconds. This switching speed if it were to generate transients they would be in the order of 100's of kHz. In BS Harmonised Standards, the potential transients at these offsets do not affect the system and can be treated as in band and are covered by the operating band emissions requirements.

4.2.7 Receiver co-channel rejection

All receiver requirements are predicated on an assumption of the ability to maintain a certain quality metric at a minimum Eb/No value. The ability of the receiver to demodulate in the presence of on-channel noise is hence tested in all receiver requirements, sensitivity ACS, blocking, etc. Any in-band interference adds to the No power value, and as such co-channel interference does not need to be specifically tested.

4.2.8 Receiver selectivity

4.2.8.1 Receiver spurious response rejection

Receiver spurious response rejection is a measure of the receiver's capability to receive a wanted signal without exceeding a given degradation due to the presence of an unwanted signal at any frequency at which a response is obtained.

The BS Harmonised Standards out of band blocking requirements cover all out of band frequencies including any spurious response.

4.2.9 Other receiver effects

4.2.9.1 Receiver dynamic range

In the UTRA/E-UTRA/NR systems, the UL power levels from the UE are controlled, and as such, it is not possible to receive a wanted signal that is high enough to produce any overloading effects. Linearity and high input signal levels are characterized by un-wanted in-band input signals in the in-band blocking requirement.

Receiver dynamic range is defined as the range of the wanted input signal level over which a receiver functions at a specified performance level. The lower end of this range is normally the sensitivity of the receiver. The upper end of a receiver's dynamic range determines how strong a received signal can be before producing degradation due to overloading.

Many receivers are deployed in a manner that results in a situation where it is impossible to receive a wanted signal that is high enough to produce any overloading effect. In these cases, ETSI Technical Bodies may decide not to specify receiver dynamic range.

The dynamic range of a receiver may be specified in an Harmonised Standard as a "stand-alone" requirement where the operational situation provides minimum/maximum operational distances from a common transmitter.

In all other cases, it is considered that the dynamic range of the receiver is implicitly covered in an Harmonised Standard where interference characteristics are specified in terms of selectivity requirements, including blocking.

4.2.9.2 Reciprocal mixing

Reciprocal mixing occurs when noise sidebands of the Local Oscillator (LO) mix with interfering signals at distances from the wanted signal comparable to the LO offset range where phase noise is higher than the thermal noise (i.e. from few hundreds Hz to few MHz) converting unwanted noise at the frequency of the receiver which may result in "desensitization" of the receiver (see note 1), additional to that produced by the interference itself. In direct Digital Down Conversion receivers (DDC), a similar effect occurs caused by the phase jitter (see note 2) of the clock associated with the ADC.

It is considered that the reciprocal mixing effects are implicitly covered in the Harmonised Standards where comprehensive interference characteristics are specified in terms of selectivity and/or blocking requirements, thus removing the need for this parameter to be included in the Harmonised Standards as the effects of receiver selectivity and reciprocal mixing cannot be separated.

NOTE 1: In communications receivers intended for use in interference-limited rather than noise-limited environments, degradation due to reciprocal mixing may occur before degradation due to non-linearity. As a result, reciprocal mixing may be the dominant effect in those receivers' performance.

NOTE 2: The term "jitter" is often used in digital systems whereas the term "phase noise" is used in traditional radio systems; however, the two terms refer to the variation in phase of a signal and are, therefore, essentially the same phenomenon.

In the BS Harmonised Standard, the effects of reciprocal mixing are covered by the ACS and the in-band blocking requirements.

4.3 3GPP parameters

4.3.1 Output power dynamics

The Harmonised Standard does not include transmitter output power dynamics.

The output power dynamics requirements in 3GPP interpretation are defined to ensure that the BS transmitter has an output power dynamic range to handle the modulation schemes and channel bandwidths that are part of the downlink. Resource Element (RE) power control dynamic range defines the range needed for power control per RE relative to the average RE power at max BS output power, defined for each of the downlink modulation schemes. The total power dynamic range is defined for each channel bandwidth to enable dynamics from 1 RE up to the maximum number of RE for that channel bandwidth. All requirements relate to the possibility for scheduling in the downlink, which creates varying output power levels, while the maximum power level is defined by the already included Base Station maximum output power requirement. For this reason, the output power dynamic range requirements are not relevant for harmful interference or efficient use of spectrum.

4.3.2 Transmit signal quality

Modulation Quality/Error Vector Magnitude (EVM)

EVM is a measure of the difference between the ideal modulation symbols and the measured symbols after equalization at the receiver. This maximum allowed transmitter error is set to achieve enough SNR at the receiver for the chosen modulation scheme. Since it is not related to carrier leakage or unwanted emissions from the transmitter, it is not relevant for harmful interference or efficient use of spectrum.

Time Alignment Error

Several features require the Base Station to transmit from two or more antennas, such as transmitter diversity and MIMO. For carrier aggregation, the carriers may also be transmitted from different antennas. In order to the UE to properly receive the signals from multiple antennas, the timing relation between any two transmitter branches is specified in terms of a maximum time alignment error between transmitter branches. For this reason, Time Alignment Error requirement is not relevant for harmful interference or efficient use of spectrum.

Frequency error is also in the transmit signal quality clause but has been discussed in clause 4.2.3 on the frequency stability.

4.3.3 Occupied bandwidth

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage (0,5 %) of the total mean transmitted power (see also Recommendation ITU-R SM.328 [i.33]).

The occupied bandwidth, defined in the Radio Regulations of the International Telecommunication Union ITU [i.36], is a useful concept for specifying the spectral properties of a given emission in the simplest possible manner. The test purpose is to verify that the emission of the BS does not occupy an excessive bandwidth for the service to be provided and is, therefore, not likely to create interference to other users of the spectrum beyond undue limits.

The method is to measure the spectrum emission of the transmitted signal using at least the number of measurement points and across a specified span. The selected Resolution Bandwidth (RBW) filter of the analyser is 30 kHz or less.

While the occupied bandwidth is related to unwanted emissions outside the assigned channel, it is not a precise measure, since it does not identify where the unwanted emissions would fall in the out-of-band domain, where the already included requirements on Operating band unwanted emissions and ACLR are securing a low level of interference to other systems. For this reason, the occupied bandwidth is not relevant for harmful interference or efficient use of spectrum.

4.3.4 In channel selectivity

In channel selectivity is a requirement defined in the 3GPP specifications for the BS [i.28] to [i.32].

The in-channel selectivity is defined as a measure of the receiver's ability to receive a wanted signal at its assigned resource block locations in the presence of an interfering signal received at a larger power spectral density, at which a throughput requirement is fulfilled. The intention of this requirement is to address in-band adjacent resource block selectivity, i.e. the reception of simultaneous user signals at greatly different power spectral density levels. As mentioned in the naming of this requirement, In-Channel selectivity would not improve performance against unwanted signals or harmful interference from adjacent channels. For this reason, In-Channel selectivity requirement is not relevant for harmful interference or efficient use of spectrum.

4.3.5 Dynamic range

Dynamic range is a requirement defined in the 3GPP specifications for the BS [i.28] to [i.32].

The term "Dynamic Range" as defined by 3GPP requires additional clarification. Dynamic range of a receiver is usually defined as the input signal power range at the antenna input port over which the data error rate does not exceed a specific value. The lower end of the dynamic range is close to the receiver sensitivity power level, while the maximum input power level at which the error data rate remains below the target specification determines the upper end of the dynamic range. The specification of the "Dynamic Range" as introduced in e.g. [i.32] describes a completely different test case. The dynamic range is specified as a measure of the capability of the receiver to receive a wanted signal in the presence of an interfering signal inside the received channel bandwidth. In this condition, a throughput requirement is met for a specified reference measurement channel. The interfering signal for the dynamic range requirement is an Average White Gaussian Noise (AWGN) signal. The target throughput is specified to be $\geq$ 95 % for the given conditions. This requirement is relevant for BS due to the multiple transmissions that can exist in the receiver channel; however, this is not very relevant when it comes to efficient use of spectrum or harmful interference. Interference level in a cellular network is a design parameter controlled by the network operator. The Dynamic range requirement as defined in 3GPP is therefore not needed in the Harmonised Standard.

History

Document history		
V1.1.1	October 2022	Publication