

ANSWERS OF CLARIFICATION REQUESTS OF LOT 2 FOR TENDER EUROPEAID/120263/D/S/TR

"Support to the Turkish Conformity Assessment Bodies and Ministry of Industry and Trade in the Implementation of some New Approach-**Supply of Equipment for CABs**"

The following alterations and/or corrections are made to the Tender Dossier

GENERAL QUESTIONS AND ANSWERS

QUESTIONS AND ANSWERS UNDER GENERAL QUESTIONS AND ANSWERS IN CLARIFICATION PUBLISHED ON 29 SEPTEMBER 2005 is AN ENCLOSURE TO THIS CLARIFICATION.

LOT 2: RADIO & TELECOMMUNICATIONS TERMINAL EQUIPMENT– TESTING- & SUPPORT- EQUIPMENT

QUESTION 1

2.4 Anechoic Chamber, Lot 2, Item 2.1.41

2.4.1 General

The given specifications for the chambers within Lot 2 do not even allow pre-compliance or R&D EMC testing. They can only be used for private research or rough investigation of test specimens. None of the chambers will qualify for a full compliance measurement according to valid standards for emission measurements.

However, this is in strong contradiction to the intention to establish laboratories for the *National System of Conformity Assessment Bodies (CABs) and Market Surveillance Support Labs*. Such laboratories must be able to issue valid test reports. The measurements for such reports must be performed in full-compliance chambers. The specified chambers are far from being full-compliance.

Can you change the specification to full compliance anechoic chambers? We do not understand why chambers for "rough investigation" are specified though fully compliance chambers are required because they are mandatory for official CAB labs.

ANSWER1

The anechoic chamber will be full compliant with related standards for the Telecommunications Equipment Tests. The anechoic chamber will be fully compliant with ETSI EN 300 328-1V1.6.1 (2004-11) and TBR 6 standards as well.

Main Characteristics of the Anechoic Chamber: must meet or exceed the following specifications.

Minimum Internal Free Space Sizes	10m (L) x 5 m (W) x 5m (H)
Chamber type	Full anechoic
Frequency Range	30 MHz – 18 GHz (wide frequency range will be preferred)
2 axis positioner	The chamber will have the capability for rotation of equipment in two axis
Turntable	Diameter 1,5m, Load capacity 500kg, Rotation 360 degree
Control Room	Anechoic chamber will consists of control room
Site Validation and Critical Criteria	Screening effectiveness as EN50147-1 and return loss parameters as ETSI EN 300 328-1 V1.6.1 (notice, for 8 GHz – 18 GHz the return loss parameter will be >30)
EUT to absorbers minimum distance	1 meter, preferably
One Swing Door for anechoic chamber	1.0 m ± %10 (width) x 2.1 m ± %10 (height)
One Swing Door for control room	1.0 m ± %10 (width) x 2.1 m ± %10 (height)
Ventilation Grills (Honeycomb Waveguide Vents)	<ul style="list-style-type: none"> - Operating frequency range : 30 MHz - 18 GHz (at least, - Sizes : 30 cm x 30 cm or 40 cm x 40 cm, - Quantity : 2 inlets, 2 outlets totally 4
Electrical Installation, Distribution and Lightning for anechoic chamber	<ul style="list-style-type: none"> - Lightning with 8 halogen lamps, each 400 W, - Emergency light, installed over doors, - Do not open light over doors, - 10 outlets, 230 volt, 16 A in European standard, - 4 outlets, 440 volt, 32 A in European standard, - Power distribution box with necessary breakers and fuses, - Cabling and cable ducts,
Electrical Installation, Distribution and Lightning for control room	<ul style="list-style-type: none"> - Lightning with 8 lamps, each 100 W, - Emergency light, installed over doors, - Do not open light over doors, - 10 outlets, 230 volt, 16 A in European standard, - 4 outlets, 440 volt, 32 A in European standard, - Power distribution box with necessary breakers and fuses, - Cabling and cable ducts,
Power Line Filters and Signal Filters	<ul style="list-style-type: none"> - one filter, 32 A 400 volt 50 / 60 Hz (three phase and neutral), - one filter, 32 A 250 volt 50 / 60 Hz (one phase and neutral), - four filters for each high hat light, 16 amp 250 volt 50 /

	60 Hz (one phase and neutral), - filters, 2 A 100 volt (one phase and neutral) control filter for fire detection, - filters, 0.3 A 80 volt (one phase and neutral) data filter for communication, - filters, 0.3 A 80 volt (one phase and neutral) digital filter for telephone,
Notch Filters	The anechoic chamber will include a set of notch filters related R&TTE Directives.
Connector Panels (Entry Panels)	6 panels, (each one includes BNC/N-Type/waveguide families in frequency range 30 MHz - 18 GHz, fiber optic pipe and sound pipe penetrations and IEEE 488 connectors, for automatic controller,)
Additional Specifications:	Must be delivered with documentation clearly written in English, with preference given to manuals in both English and Turkish, including: instruction for routine use and maintenance; a statement of performance characteristics; health and safety information Must be delivered with all accessories
<u>System Installation, Integration and Testing</u>	This anechoic chamber should comply the related standards mentioned above. The necessary software for measurement of main parameters will be supplied. Additionally this software will have the capability of preparing a report. After installation, the main parameters of anechoic chamber will be measured and reported by supplier.

QUESTION 2

(Lot 2) :

No system integration is specified. Is this supposed to be done by the Turkish laboratory experts by themselves?

No test management and test report generation software is specified. Is this to be included or is it already existing in the laboratories? Or to be developed by Turkish lab experts ?

ANSWER 2

(Lot 2) :

The specifications have already been given in detail in the answer of question 1. The software will have the capability of preparing and issuing valid test reports.

QUESTION 3

(Lot 2 / 2.1.2) :

Is this only for AC? No other signals specified?

ANSWER 3

(Lot 2 / 2.1.2) :

The multimeter can be used also for DC measurements. The multimeter at least will comply with the TBR1 and TBR2. Usually most of multimeters can measure the AC and DC voltages and currents and resistance.

QUESTION 4

(Lot 2 / 2.1.3) :

Are the functions only sinus functions? Or do you specify other functions also? Which ones? Do you confirm the necessary range up to 1 GHz?

ANSWER 4

(Lot 2 / 2.1.3) :

The functions will include also wide band FM and PM, AM and Pulse modulation, step sweep (frequency, power) properties.

The necessary frequency range is up to 1GHz.

The parameters of the function generator at least must comply the TBR's 1, 2, 4, 12, 13, 24, 25 and related ETSI standards. Please see corrigendum no 4.

QUESTION 5

(Lot 2 / 2.1.4) :

What are the standards to be addressed by this equipment? For what type of products? Any detailed specification?

ANSWER 5

(Lot 2 / 2.1.4) :

TBR1 The terminal equipment with an X21 Interface with data rates up to 1984kB/s.

TBR2 data terminal equipment connected to packet switched public data networks (PSPDNs) with X25 interface and data rates up to 1920kB/s.

QUESTION 6

(Lot 2 / 2.1.5, 2.1.6, 2.1.7, 2.1.17, 2.1.18) :

Is this related to R&TTE Directive? Which type of product? Do you have a detailed specification? Covered standards?

ANSWER 6

(Lot 2 / 2.1.5, 2.1.6, 2.1.7, 2.1.17, 2.1.18) :

The items 2.1.5, 2.1.6, 2.1.7 describe by TBR1 and TBR2. The equipment proposed 2.1.5, 2.1.6; 2.1.7 will comply with TBR1 and TBR2.

The equipment proposed in 2.1.17 with TBR24 and TBR25, and 2.1.18, with the TBR 4, 12, 13, 24, 25.

TBR1 The terminal equipment with an X21 Interface with data rates up to 1984kB/s.

TBR2 data terminal equipment connected to packet switched public data networks (PSPDNs) with X25 interface and data rates up to 1920kB/s.

TBR4 Terminal equipment attached to ISDN using primary rate access.

TBR12 Business telecoms, 2048kB/s digital leased line, unstructured (D2048U) terminal equipment attachment requirements.

TBR13 Business telecoms, 2048kB/s digital leased line, structured (D2048S) terminal equipment attachment requirements.

TBR24 and TBR25 Business telecoms, 34MB/s attachment requirements for terminal interfaces.

QUESTION 7

(Lot 2 / 2.1.8) :

BRI So Analyzers range from small R&D test devices till formal conformance testing devices. Do you confirm that this item is intended for a complete test laboratory for BRI So ? Due to the very complex nature of such a device can you detail the ETSI specs, layers to be covered, functionalities?

Is the test monitor to be provided? The test generator or its interface?

What is the complete list of the requested test suites? (list of protocols ?)

How do you intend to mintor the tester ? Interfaces, controllers, Windows ?

As BRI is intended for ISDN testing, what is the purpose of the analogue interface ?

ANSWER 7

(Lot 2 / 2.1.8) :

BRI So analyzer in LOT 2/2.1.8 will comply TBR3.

TBR3 Terminal equipment attached to ISDN.

QUESTION 8

(Lot 2 / 2.1.10) :

What is the range specified for the device? Connection type?

ANSWER 8

(Lot 2 / 2.1.10) :

Remote Power Switch Unit in LOT 2/2.1.10 will comply TBR3.

TBR3 Terminal equipment attached to ISDN. You can find additional information in Annex B of TBR3.

QUESTION 9

(Lot 2 / 2.1.14) :

If this phone is supposed to be a test device, what would be the controller specs?

ANSWER 9

(Lot 2 / 2.1.14) :

ISDN BRI So Phone in LOT 2/2.1.14 will comply TBR3.

TBR3 Terminal equipment attached to ISDN. You can find additional information in TBR3.

QUESTION 10

(Lot 2 / 2.1.15) :

Is this a protocol analyzer or a phone ? please specify .

If protocol analyzer, detail the list of protocols and specs, and compare with item 2.1.8.

ANSWER 10

(Lot 2 / 2.1.15) :

ISDN Protocol Analyzer in LOT 2/2.1.15 will comply TBR 3, 4, 33, 34.

TBR3 Terminal equipment attached to ISDN.

TBR4 Terminal equipment attached to ISDN using primary rate access.

TBR33 ISDN attachments requirements for connection to packet mode terminal equipment

TBR34 ISDN attachments requirements for connection to packet mode terminal equipment, using primary rate access.

QUESTION 11

(Lot 2 / 2.1.20) :

Is this related to R&TTE Directive? Do you have a detailed specification? Covered standards?

Usually TBR4 refers to network components, not to terminals.

See also same type of equipment requested in 2.1.18.

ANSWER 11

(Lot 2 / 2.1.20) :

Yes, this is related to R&TTE Directive (TBR 4, 12, 13).

QUESTION 12

(Lot 2 / 2.1.21) :

Does this address only the terminal part of the network?

List of the standards?

Does the system also include the acoustics part?

List of standard network interfaces available in Turkey? National deltas?

National interface specifications are available in Turkey.

Is the system to be integrated by the Turkish experts?

If not controlling and reporting specifications?

Calibration issues ?

Is the artificial head to be provided ?

only for analogue or digital compatible ?

Is the testing room (acoustics) already available in the building ?

ANSWER 12

(Lot 2 / 2.1.21) :

Does this address only the terminal part of the network?

Answer-yes. The requirements will be supplied by TBR21 and ETSI TS 21 103 standards.

List of the standards ?

Answer-Must comply TBR21.

TBR 21 Attachments for analog PSTN, voice telephony and DTMF signalling.

This test covers systems that are connected to analog Public Switched network or PSTN. It covers voice and use of Dual Tone Multiple Frequency Signalling. This system used for determination of current drawn, ringing impedance, voltage and current.

Does the system also include the acoustics part ?

Answer-yes

List of standard network interfaces available in Turkey ? National deltas ?

National interface specifications are available in Turkey.

Is the system to be integrated by the Turkish experts ?

Answer-No

If not controlling and reporting specifications ?

Yes, will be supplied.

Calibration issues ?

Yes, will be supplied.

Is the artificial head to be provided ?

Yes, will be supplied.

QUESTION 13

(Lot 2 / 2.1.22) :

American specifications like old technologies as AMPS are mentioned in the specs ; do you confirm them?

ANSWER 13

(Lot 2 / 2.1.22) :

The requirement for 2.1.22 and 2.1.23 are as follows:

GSM, GPRS, EGPRS, EDGE, W-CDMA, and UMTS. Please see corrigendum no 4.

QUESTION 14

(Lot 2 / 2.1.25) :

Are these GCF conformance testing targeted? Is it a complete conformance tester you request?

Is the complex environment necessary for using such equipment already ready, qualified and available ? description of the interfaces ?

ANSWER 14

(Lot 2 / 2.1.25) :

Yes, Global Certification Forum conformance testing targeted. Complete conformance test is required. The EMC test and measurement system including anechoic chamber radiated emission and immunity test system are available.

QUESTION 15

(Lot 2 / 2.1.26) :

Are these BT-SIG conformance and/or interop testing targeted? Is it a complete conformance/interop tester you request?

Is the complex environment necessary for using such equipment already ready, qualified and available? description of the interfaces ?

ANSWER 15

(Lot 2 / 2.1.26) :

Yes, BT-SIG conformance and interop testing targeted and requested. The EMC test and measurement system including anechoic chamber radiated emission and immunity test system are available

QUESTION 16

(Lot 2 / 2.1.27) :

Are these WiFi Alliance conformance and/or interop testing targeted or the Bluetooth LAN profile? Is it a complete conformance/interop tester you request ?

Is the complex environment necessary for using such equipment already ready, qualified and available ? description of the interfaces ?

ANSWER 16

(Lot 2 / 2.1.27) :

Spurious signals from related equipment correspondent R&TTE directives.

WiFi Alliance conformance testing targeted. Conformance test is required. The system must comply with whole IEEE 802.11 standards

We have EMC test and measurement system including anechoic chamber radiated emission and immunity test system.

QUESTION 17

(Lot 2 / 2.1.28) :

Is this related to R&TTE Directive ? Which standards and products does it target ?

The range seem out of the range of the other equipments so it might not be measurable ? Do you confirm the need for 60 GHZ ?

ANSWER 17

(Lot 2 / 2.1.28) :

The frequency range of microwave generator is up to 18 GHz in accordance to R&TTE Directive. Please see corrigendum No 4.

QUESTION 18

(Lot 2 / 2.1.29) :

EMC control software is a definitely complex system software and it is necessary to detail the functionalities expected from this software. What are the basic functions requested ? Does the system work automatically ? is it for both EMI/EMS ?

Does it require report generator ?

Any script language or control interfaces ?

Any PC-Windows operation ?

We don't see in the list a test suit request to which this would be compatible ?

ANSWER 18

(Lot 2 / 2.1.29) :

Currently the UME Test Laboratory uses Schaffner software. To make EMC measurements on radio devices we would like to interface our current set up with a new supplied equipments. However other software which can control the

EMC equipment of laboratory in integration of new proposed equipment will be accepted.

If proposed equipment in this tender will be used in EMC test site, the necessary software program for PC controlled testing in an anechoic chamber should be supplied.

All of EMC equipment is from well known manufactures and instrument drivers can be accessed from public domain. Monitoring of the equipment under test during an immunity and emission test is required. Monitoring baseband audio, together with BER and FER test reporting is essential.

QUESTION 19

(Lot 2 / 2.1.30) :

Are these GCF conformance testing targeted ? Is it a complete conformance tester you request ?

Is the complex environment necessary for using such equipment already ready, qualified and available ? description of the interfaces ?

ANSWER 19

(Lot 2 / 2.1.30) :

Yes, GCF conformance testing for GSM900, EGSM, GSM1800, GSM1900 targeted. The multiprotocol tester for current and future mobile radio networks are required. Additionally , in accordance with the R&TTE Directive, the main issue is over the air performance or Layer 1 requirements.

QUESTION 20

(Lot 2 / 2.1.33) :

Is it required a battery operation?

For metrology purposes it is always recommended in EU CAB labs to have different systems for Power meters and counters. Do you confirm their combination for your lab?

ANSWER 20

Powermeter and frequency counter are different equipment and their technical specifications have already been given below. Please see the corrigendum no 4.

Technical Specifications for Power Meter

- **Frequency Range: DC to 18 GHz**
- **According to the sensor, device should measure power (average, pulse, PEP), level and DC voltage.**
- **Should include IEEE-bus interface**
- **Should include power sensor which specification below**
 - **Frequency Range : 10 MHz to 18 GHz**
 - **Power Range: - 30 dBm to +20 dBm (wider power range will be preferred)**
 - **Maximum SWR: <1.5**
- **Should include a Source for Sensor Check**
- **Should include Service Manual**

Technical Specification for Counter

- **Single-shot Time Interval Resolution < 100 ps**
- **External reference input frequency: 5 or 10 MHz**
- **Should include High Stability Reference Time base**
- **Programmable via GPIB**
- **Should have Calibration and Service Manual**

QUESTION 21

(Lot 2 / 2.1.35) :

Is this related to R&TTE Directive? Do you have a detailed specification? Covered standards?
We don't see the relation between cables and R&TTE devices.

ANSWER 21

(Lot 2 / 2.1.35) :

This equipment includes the functions as a spectrum analyser which will be used to measure time domain reflections as well as spurious radiation emissions in TBR6 and other general analog analysis.

This is a portable device which is required for quick check on field installation. Also there is a requirement to test over different line lengths and so this device will be used to test the integrity of the line.

QUESTION 22

(Lot 2 / 2.1.36) :

The power is mentioned as Max : is this max or is it min ?

ANSWER 22

(Lot 2 / 2.1.36) :

Yes, it's min.

QUESTION 23

(Lot 2 / 2.1.37) :

Is this related to R&TTE Directive? Do you have a detailed specification? Covered standards?

ANSWER 23

(Lot 2 / 2.1.37) :

This equipment is related to R&TTE directive. This equipment will be used for time domain measurement and also comply with TBR4, 12, 13, 24, 25.

This is for a vector analyzer; it will be used to investigate phase and amplitude performance of RF transmitters and is related to R&TTE Directive.

QUESTION 24

(Lot 2 / 2.1.38) :

Are these GCF conformance testing targeted? Is it a complete conformance tester you request?

Is the complex environment necessary for using such equipment already ready, qualified and available ? description of the interfaces ?

What about the American-only standards referred to in this spec?

ANSWER 24

(Lot 2 / 2.1.38) :

Yes, complete conformance testing is targeted. Actually in this project testing the multi standard phones is planned. The W-CDMA standard will be used for investigation of RF interface baseband and Audio Bit Error Rate and Frame Error Rate functions (BER/FER) for multi standard phones. Please see corrigendum no 4.

QUESTION 25

(Lot 2 / 2.1.39) :

Which MIL-STDs do you request ?

ANSWER 25

Please see corrigendum no 4.

QUESTION 26

(Lot 2 / 2.1.41) :

This EMC chamber has dimensions which are not conforming with EU standards measurement practices. Should we suppose that the before mentioned CAB labs have already their own regular full conformity EMC chambers ? and they only intend to buy some simple pre-qualification rooms for special use ?

The ferrite coating which is mentioned for the rooms is not compatible with the testing features mentioned in the immediately following paragraph. If devices for up to 10 Gigahertz are to be tested, this only can be done with absorber cones coated EMC chambers.

If 10 Giga devices have to be measured, then the frequency range of the EMC chamber have to be around 40 gigas. Do you confirm this frequency range to be achieved ?

Testing in EMC chambers requires a detailed specification of the performance and the complete list of the products to be tested or the standards to be covered by the testings. Do you intend to provide one or the other listings ?

Turn-tables are used for operating the EUT. No specification is given for the turn-tables. Is this a specific test room or is it to address EMC directive testings ?

The 100 db attenuation is specified for which range ?

How do you intend to qualify this EMC chamber ? Which are the qualification parameters ?

Do you intend to use a third-party expert for the qualification?

No system integration is specified. Is this supposed to be done by the Turkish laboratory experts by themselves?

No test management and test report generation software is specified. Is this to be included or is it already existing in the laboratories? Or to be developed by Turkish lab experts?

ANSWER 26

(Lot 2 / 2.1.41) :

The detailed technical specification of anechoic chamber is changed. The detailed new technical specifications for anechoic chamber are given in corrigendum no 4.

QUESTION 27

(Lot 2 / 2.1.42) :

Is this related to R&TTE Directive ? Do you have a detailed specification ? Covered standards? (WiFi protocol standards are not related to R&TTE)

ANSWER 27

(Lot 2 / 2.1.42) :

Yes, wireless 802.11 series tester. All of the proposed equipment comply with related European Standards and relevant R&TTE Directive. It covers whole IEEE 802.11 standards.

QUESTION 28

(Lot 2 / 2.2.1-Content) :

Test instruments specified in the previous pages do not only refer to ETSI or European standards (see AMPS, CDMA and other typical American standards) ; do you confirm that the trainings will only address the EU and ETSI standards ? Also limited to R&TTE ? (some equipment listed being out the scope of R&TTE)

ANSWER 28

(Lot 2 / 2.2.1-Content) :

Training need only address the European Standards. But it is essential that the differences are made clear, it should be limited to R&TTE, but a good instructor would always point out specific differences and commonalities with other standards without covering the detail.

QUESTION 29

(Lot 2 / 2.1.4) :

Would you please give more details about the type of DCE Simulator? On which types of interfaces it should simulate a DCE ? Would you be able to give the name of a compatible device model, in order to have a more precise idea about the configuration required ?

ANSWER 29

(Lot 2 / 2.1.4) :

Allows switching between mark and space within the waveform, must comply with TBR1 and TBR 2.

QUESTION 30

(Lot 2 / 2.1.5, 2.1.6, 2.1.7) :

Which TTC analyzer these items should work with ? If this TTC analyzer is no more in production, then what other instrument would you prefer to have in order to fulfill the functions of these items ?

ANSWER 30

(Lot 2 / 2.1.5, 2.1.6, 2.1.7) :

This analyzer will comply with the TBR1 and TBR 2.The interfaces as defined in TBR1 and TBR2.

QUESTION 31

(Lot 2 / 2.1.8) :

Would you please give more details about the kind of analysis requested ? Would you be able to give the name of a compatible device model, in order to have a more precise idea about the configuration required ?

ANSWER 31

(Lot 2 / 2.1.8) :

The configuration Includes Jitter and analog modules and comply with TBR 3.

QUESTION 32

(Lot 2 / 2.1.15) :

The specs of the previous item were accidentally copied and pasted on this item. Would you please give the details of this ISDN Protocol Analyzer ? Would you be able to give the name of a compatible device model, in order to have a more precise idea about the configuration required ?

ANSWER 32

(Lot 2 / 2.1.15) :

The ISDN Protocol Analyzer must comply with TBR3, TBR4, TBR33 and TBR34.

QUESTION 33

(Lot 2 / 2.1.19) :

Would you please give more details about this item ? Is DS1 to OC192C testing required indeed, since this belongs to SONET systems not used in Europe ? What type of optical interfaces and test functions required ?

ANSWER 33

(Lot 2 / 2.1.19) :

The Multi-rate transmission testing will comply with TBR 4, 12, 13, 24 & 25. Please see corrigendum no 4.

QUESTION 34

(Lot 2 / 2.1.20) :

Can this Test Set be composed of several separate stand-alone test instruments? Would you be able to give the name of a compatible Test Set model, in order to have a more precise idea about the configuration required?

ANSWER 34

(Lot 2 / 2.1.20) :

Test set should have capable of software testing for frame relay, ISDN, SS7, GSM, GPRS, X.25 and V5.1/V5.2. It will also comply with TBR 4, 12 & 13.

QUESTION 35

(Lot 2 / 2.1.21) :

Would you please give more details about the kind of analysis requested ? Would you be able to give the name of a compatible device model, in order to have a more precise idea about the configuration required ?

ANSWER 35
(Lot 2 / 2.1.21) :
TBR21 tester

QUESTION 36
(Lot 2 /General) :
General:

Should the test equipment be capable of tests compliant with R&TTE in accordance with the relevant ETSI standards (see list)? This means a Conformance Test System for 2G and 3G is required? Or should the tests be carried out on a low level, which is not compliant with R&TTE?

Do they plan to do certification testing according to GCF/PTCRB?

ETSI Standards:

For WCDMA:

[1] ETSI TS134.121 V5.0.0, 2003-06 (or higher) / 3GPP TS 34.121 V5.0.0 (or higher) Release 5 Terminal Conformance Specification; Radio transmission and reception (FDD)

[2] ETSI TS134.108 V3.12.0,2003-06 (or higher) / 3GPP TS 34.108 V3.12.0 release 1999 (or higher) Common Test Environments for User Equipment (UE) Conformance Testing

[3] ETSI TS134.109 V3.9.0, 2003-03 (or higher)/ 3GPP TS 34.121 V3.9.0 release 1999 (or higher) Terminal logical test interface; special conformance testing functions

[4] Draft ETSI EN 301 908-2 v2.1.1 (2003-03)

ERM; BS; Repeaters and UE for IMT-2000; Part 2 Harmonized EN for IMT-2000, UTRA-FDD UE covering essential requirements of article 3.2 of the R&TTE Directive

For GSM:

[5] ETSI TS 151.010-1 V6.1.0 (or higher) / 3GPP TS 51.010-1 Version 6.1.0 (or higher)

They target conformance testing as CABs

The standards IS-136, CDMA2000 and TACS are standards used only in America or Asia. They are of no relevance for Europe regarding R&TTE testing. Therefore for our understanding it is irrelevant for Conformity Assessment Bodies in Europe to test these standards?

They are confirmed but they are not for conformity assessment

How should be proceeded, if test equipment required for the tender is no more available?

What is the meaning of “must be delivered with all accessories” in the additional requirements part of each item.All available accessories ? or All necessary accessories to be used for basic functionality? We need more detail for this requirement.

ANSWER 36

(Lot 2 / General) :

All of the equipment to be proposed must comply with related ETSI standards. Please see corrigendum no 4.

QUESTION 37

(Lot 2 / 2.1.1) :

There are Digital Oscilloscopes with European Origine with bandwith less or equal to 500 Mhz. With BW 5 GHz there are no European originated Oscilloscope available.

ANSWER 37

(Lot 2 / 2.1.1) :

The new specifications have been revised please see corrigendum no 4.

QUESTION 38

(Lot 2 / 2.1.2) :

The specified multimeter is not available as European origin. There are DMMs with 5,5 Digit resolution available with European Origin?

ANSWER 38

(Lot 2 / 2.1.2) :

The new specifications have been revised please see corrigendum no 4.

QUESTION 39

(Lot 2 / 2.1.3) :

Output frequency 1 GHz indicates a RF signal generator. Are functions (e.g. square wave etc.) or modulations (AM,FM etc.) necessary? Please specify in more detail.

ANSWER 39

(Lot 2 / 2.1.3) :

The signal generator at least will comply with the TBR 1, 2, 4, 12, 13, 24, and 25. The functions will include also wide band FM and PM, AM and Pulse modulation, step sweep (frequency, power) properties. The necessary frequency range up is to 1GHz. The parameters of the function generator at least must comply the TBR's 1, 2, 4, 12, 13, 24, 25 and related ETSI standards.

QUESTION 40

(Lot 2 / 2.1.4) :

Specifications are not enough to find the described test equipment?

ANSWER 40

(Lot 2 / 2.1.4) :

The DCE simulator must comply with TBR1 and TBR 2.

QUESTION 41

(Lot 2 / 2.1.5) :

Basic feature is given as "must allow to work TTC analyzer" is not enough to define the equipment. so the model number of the analyzer must be specified as well.

ANSWER 41

(Lot 2 / 2.1.5) :

The V10 Test Interface must comply with TBR1 and TBR 2.

QUESTION 42

(Lot 2 / 2.1.6) :

Basic feature is given as “must allow to work TTC analyzer” is not enough to define the equipment. TTC is a USA based communication test equipment manufacturer so the model number of the analyzer must be specified as well.

ANSWER 42

(Lot 2 / 2.1.6) :

The parameters of V10 and V11 test interfaces will comply with TBR1 and TBR2. Please see corrigendum no 4.

QUESTION 43

(Lot 2 / 2.1.7) :

Basic feature is given as “must allow to work TTC analyzer” is not enough to define the equipment. TTC is a USA based communication test equipment manufacturer so the model number of the analyzer must be specified as well.

ANSWER 43

(Lot 2 / 2.1.7) :

The parameters of V10 and V11 test interfaces will comply with TBR1 and TBR2. Please see corrigendum No 4.

QUESTION 44

(Lot 2 / 2.1.8) :

Specifications are not enough to find the described test equipment?

ANSWER 44

(Lot 2 / 2.1.8) :

The BRI So Analyser must comply with TBR3.

QUESTION 45

(Lot 2 / 2.1.9) :

From the specifications it is understood that this is a part or accessory of 2.1.8 but needs clarification?

ANSWER 45

(Lot 2 / 2.1.9) :

This is an accessory of 2.1.8.

This is a delay line to stimulate various line lengths as required under TBR3. This is not a commercially available product, but may have to be specially made.

QUESTION 46

(Lot 2 / 2.1.10) :

Specifications are not enough to find the described test equipment? What is the power needed for EUTs? How many watts to be switched? How many outputs to be driven by the switch?

ANSWER 46

(Lot 2 / 2.1.10) :

The Remote Power Switch Unit must comply with TBR3. Please see ANNEX B of TBR3.

QUESTION 47

(Lot 2 / 2.1.11) :

Specifications are not enough to find the described test equipment? From the name and the general specifications it is understood that the required test equipment is an option or an accessory of a main test equipment. We need the requirements of this main test equipment in order to clarify the need.

ANSWER 47

(Lot 2 / 2.1.11) :

The DC Unbalance Test Unit and DC Unbalance Test Module must comply with TBR3.

QUESTION 48

(Lot 2 / 2.1.12) :

The specifications are not enough to distinguish the equipment. There are 100 s of Earth isolation testing equipment available in the market? What is the resistance range? (e.g 20 Mega ohm?) What is the resolution? Is portability a requirement? What size needed? Battery operation is needed or not?

ANSWER 48

(Lot 2 / 2.1.12) :

The Galvanic Isolation Unit must comply with TBR3. Please see ANNEX B of TBR3.

QUESTION 49

(Lot 2 / 2.1.13) :

Specifications are not enough to find clearly the described test equipment? May also be an option or an accessory of a main Test equipment?

ANSWER 49

(Lot 2 / 2.1.13) :

The Reference Cord must comply with TBR3. It enables direct measurements of ISDN lines without interfering with the connections.

QUESTION 50

(Lot 2 / 2.1.15) :

Specifications are not enough to find clearly the described test equipment? What protocols are to be tested? Is conformance test of the ISDN protocol requirement? How many test cases are required? Since ISDN is outdated technology ,finding necessary test equipment is becoming very difficult.

ANSWER 50

(Lot 2 / 2.1.15) :

The ISDN Protocol Analyser must comply with TBR 3, 4, 33, 34.

QUESTION 51

(Lot 2 / 2.1.16) :

This item must be the part of or an accessory of item 2.1.15

ANSWER 51

(Lot 2 / 2.1.16) :

The ISDN 120 ohm Termination must comply with TBR 4.

QUESTION 52

(Lot 2 / 2.1.17) :

This item must be the part of or an accessory of item 2.1.15

ANSWER 52

(Lot 2 / 2.1.17) :

The Seventy Five Ohm Termination must comply with TBR 24, 25.

QUESTION 53

(Lot 2 / 2.1.18) :

Specifications are not enough to find clearly the described test equipment?

ANSWER 53

(Lot 2 / 2.1.18) :

The Layer 1 TBR4 Test System must comply with TBR 4, 12, 13, 24, 25.

QUESTION 54

(Lot 2 / 2.1.21) :

What type of analogue communication devices are to be tested? What are the test and interface requirements? Where shall

This test equipment to be integrated to? Is this equipment a part of or option of 2.1.19 network analyzer or 2.1.20 2 Mbit test set.

ANSWER 54

(Lot 2 / 2.1.21) :

The Integrated Analogue Tester must comply with TBR 21.

QUESTION 55

(Lot 2 / 2.1.22) :

IS-95 , CDMA2000 and Amps are USA standards? Is testing of USA standard required? The purpose of the test equipment is not clear? Is conformance testing of GSM ,GPRS,EGPRS mobile phones required?

ANSWER 55

(Lot 2 / 2.1.22) :

Yes, we need them (W-CDMA, CDMA2000, 1xEV-DO, IS-95, GSM, GPRS, EGPRS, TIA/EIA-136, and AMPS mobile phone testing).

QUESTION 56

(Lot 2 / 2.1.23) :

USA standards?

ANSWER 56

(Lot 2 / 2.1.23) :

Please see corrigendum no 4.

QUESTION 57

(Lot 2 / 2.1.24) :

No specifications are listed?

ANSWER 57

(Lot 2 / 2.1.24) :

The W-CDMA which is related to R&TTE directive has the specifications of third generation European Standard for communication and exercising radio devices.

QUESTION 58

(Lot 2 / 2.1.25) :

No specifications are listed?

ANSWER 58

(Lot 2 / 2.1.25) :

The GSM/GPRS Mobile has the specifications of communication and exercising radio devices.

QUESTION 59

(Lot 2 / 2.1.26) :

Is conformance testing required? If yes for what specifications?

ANSWER 59

(Lot 2 / 2.1.26) :

Yes, it is required. The Bluetooth Communications test Set has the specifications of communication and exercising radio devices.

QUESTION 60

(Lot 2 / 2.1.27) :

Is conformance testing required? If yes for what specifications?

ANSWER 60

(Lot 2 / 2.1.27) :

Yes, it is required. The Wireless LAN Test Set has the specifications of communication and exercising radio devices. Also, it is capable of measuring Bluetooth specifications including output power, power control, modulation characteristics, carrier drift and sensitivity.

QUESTION 61

(Lot 2 / 2.1.29) :

EMC test software is always based on EMC system hardware. The EMC software must be capable to control all the equipment and to support the system design. Especially for telecommunication EMC tests special hardware like filter unit or audio test equipment is necessary.

Should the EMC test system be included? Or should the software work with an existant test system (which has to be described very detailed then)?

Which tests (EMC standards) should be covered?

With which EMC test suit should the software be compatible? What does compatible mean (e.g. both softwares can be installed on the same PC)?

ANSWER 61

(Lot 2 / 2.1.29) :

Currently the UME Test Laboratory uses Schaffner software. To make EMC measurements on radio devices we would like to interface our current set up with new supplied equipment. However it can be accepted other software that can control our EMC equipment in integration of new proposed equipment.

If proposed equipment in this tender will be used in EMC test site, the necessary software program for PC controlled testing in an anechoic chamber should be supplied.

All of EMC equipment is from well known manufactures and instrument drivers can be accessed from public domain. It is required monitoring of the equipment under test during an immunity and emission test. Monitoring baseband audio, together with BER and FER test reporting is essential.

QUESTION 62

(Lot 2 / 2.1.30) :

Is conformance testing required?

ANSWER 62

(Lot 2 / 2.1.30) :

yes

QUESTION 63

(Lot 2 / 2.1.33) :

This kind of equipment is available from one USA based company? Is it possible to offer Counter and power meter as

different equipments ? If yes we need more clear specifications for Power meter and counter? Such as Power level? ,

Is average power or peak power to be tested? What is the frequency resolution of the counter? What is the min input power level to be counted?

ANSWER 63

(Lot 2 / 2.1.33) :

Powermeter and frequency counter are different equipment and their technical specifications have already been given in answer no 20. Please see the corrigendum no 4 and answer 20.

QUESTION 64

(Lot 2 / 2.1.35) :

What is the purpose of the instrument? What frequency range to be used in testing? What type of cable to be tested?

ANSWER 64

(Lot 2/ 2.1.35) :

General cable characterization analysis

QUESTION 65

(Lot 2 / 2.1.42) :

Is this item a part of a test equipment? If yes which is this equipment?

Control the 2.1.34 devices before mentioned.

Who is responsible in installation of the test equipments?

Supplier is responsible for the installation.

Is Item 2.1.41 to be used with item 2.1.39 ?

Yes.

If yes who is responsible for system level performance?

ANSWER 65

(Lot 2 / 2.1.42) :

Is this item a part of a test equipment? If yes which is this equipment?

Control the 2.1.34 devices before mentioned.

- **This is an option for analyzer specified in 2.1.34 for the analysis of signals.**

Who is responsible in installation of the test equipments?

- **Supplier is responsible for the installation.**

Is Item 2.1.41 to be used with item 2.1.39 ?

- **Yes, they will be used together.**

If yes who is responsible for system level performance?

- **Supplier is responsible for system level performance.**