

REPORT ON THE CERTIFICATION TESTING OF A
BROADCAST WAREHOUSE
TX600 FM BROADCAST TRANSMITTER
WITH RESPECT TO
THE FCC RULES CFR 47, PART 73 Subpart B



TEST REPORT NO: 8F1999WRP1

COPY NO: 1

ISSUE NO: 1

FCC ID: TUOTX600

REPORT ON THE CERTIFICATION TESTING OF A BROADCAST WAREHOUSE TX600 FM BROADCAST TRANSMITTER WITH RESPECT TO THE FCC RULES CFR 47, PART 73 Subpart B

TEST DATE: 17th – 26th February 2009

| TESTED BY: | | | S HODGKINSON |
|---------------|-----|----------------------------|---------------------------------|
| APPROVED | BY: | | J CHARTERS RADIO PRODUCT |
| DATE: | | 9 th March 2009 | MANAGER |
| Distribution: | | | |
| Copy Nos: | 1. | Broadcast Warehouse | |

THIS DOCUMENT MAY BE REPRODUCED ONLY IN ITS ENTIRETY AND WITHOUT CHANGE

The results herein relate only to the sample tested. Full results are contained in the relevant works order file.

UP HOLLAND

Moss View, Nipe Lane, Up Holland, West Lancashire, WN8 9PY, UK. T +44 (0)1695 556666 F +44 (0)1695 557077 E test@tracglobal.com www.tracglobal.com

2.

TRaC Telecoms & Radio

CONTENTS

| | PAGE |
|--|----------------------|
| CERTIFICATE OF CONFORMITY & COMPLIANCE | 3 |
| APPLICANT'S SUMMARY | 4 |
| EQUIPMENT TEST CONDITIONS | 5 |
| TESTS REQUIRED | 5 |
| TEST RESULTS | 6 - 16 |
| | ANNEX |
| PHOTOGRAPHS | А |
| PHOTOGRAPH No. 1: Test setup | |
| APPLICANT'S SUBMISSION OF DOCUMENTATION LIST | В |
| EQUIPMENT CALIBRATION | С |
| MEASUREMENT UNCERTAINTY | D |
| EMISSIONS MASK | E |
| CONDUCTED SPURIOUS EMISSION | F |
| RADIATED SPURIOUS EMISSION | G |
| AC POWERLINE CONDUCTION | Н |
| Notes: 1. Component failure during test | YES [] NO [X] |
| 2. If Yes, details of failure: | |
| 3. The facilities used for the testing of the product contain in this re | port are FCC Listed. |



CERTIFICATE OF CONFORMITY & COMPLIANCE

RADIO SECTION LEADER

| FCC IDENTITY: | TUOTX600 |
|----------------------------|---|
| PURPOSE OF TEST: | Certification |
| TEST SPECIFICATION: | FCC RULES CFR 47, Part 73 Subpart B |
| TEST RESULT: | Compliant to Specification |
| EQUIPMENT UNDER TEST: | TX600 FM Broadcast Transmitter |
| EQUIPMENT TYPE: | FM Broadcast Transmitter |
| OPERATING FREQUENCY RANGE: | 87.5MHz – 108MHz |
| FREQUENCY STEP SIZE: | 100kHz from Panel, 12.5kHz from internal switches |
| FREQUENCY GENERATION: | Oscillator |
| MODULATION TYPE: | F3E |
| POWER SOURCE(s): | +110Vac |
| TEST DATE(s): | 17 th – 26 th February 2009 |
| ORDER No(s): testing reg | TX600FCCTESTMPliance |
| APPLICANT: | Broadcast Warehouse |
| ADDRESS: | Unit 4 Tramsheds Coomber Way Croydon CR0 4TQ |
| TESTED BY: | S HODGKINSON |
| APPROVED BY: | J CHARTERS |

APPLICANT'S SUMMARY

| EQUIPMENT UNDER TEST (EUT): | TX600 FM Broadcast Transmitter | | | |
|--|---|--|--|--|
| EQUIPMENT TYPE: | FM Broadcast Transmitter | | | |
| PURPOSE OF TEST: | Certification | | | |
| TEST SPECIFICATION(s): | FCC RULES CFR 47, Part 73 Subpart B | | | |
| TEST RESULT: | COMPLIANT Yes [X] No [] | | | |
| APPLICANT'S CATEGORY: | MANUFACTURER [X] IMPORTER [] DISTRIBUTOR [] TEST HOUSE [] AGENT [] | | | |
| APPLICANT'S ORDER No(s): | TX600FCCTEST | | | |
| APPLICANT'S CONTACT PERSON(s): | Scott Incz | | | |
| E-mail address: | scott@bwbroadcast.com | | | |
| APPLICANT: | Broadcast Warehouse | | | |
| ADDRESS: | Unit 4 Tramsheds Coomber Way Croydon CR0 4TQ | | | |
| | | | | |
| TEL: | +44 (0) 208 683 6780 | | | |
| TEL: FAX: | +44 (0) 208 683 6780 +44 (0) 208 683 6781 | | | |
| | . , | | | |
| FAX: | +44 (0) 208 683 6781 | | | |
| FAX: EUT(s) COUNTRY OF ORIGIN: | +44 (0) 208 683 6781 United Kingdom | | | |
| FAX: EUT(s) COUNTRY OF ORIGIN: TEST LABORATORY: | +44 (0) 208 683 6781 United Kingdom TRaC Telecoms & Radio, Up Holland | | | |
| FAX: EUT(s) COUNTRY OF ORIGIN: TEST LABORATORY: UKAS ACCREDITATION No: | +44 (0) 208 683 6781 United Kingdom TRaC Telecoms & Radio, Up Holland 0728 | | | |

EQUIPMENT TEST / EXAMINATIONS REQUIRED

| 1. | TEST/EXAMINATION | RULE PART | APPLICABILITY | RESULT |
|----|---|------------------|---------------|----------|
| | RF Power Output | 73.1560(b) | Yes | Complies |
| | Audio Frequency Response | 73.1570(b) | Yes | Complies |
| | Modulation Limiting | | Yes | Complies |
| | Emission Mask | 73.317 (b) & (c) | Yes | Complies |
| | Spurious Emissions at Antenna Terminals | 2.1053 | Yes | Complies |
| | Field Strength of Spurious Emissions | 2.1053 | Yes | Complies |
| | Frequency Stability | 73.1545 | Yes | Complies |
| | Transient behaviour | | N/A(note 1) | N/A |

| | Field Strength of Spurious Emissions | 2.1055 | 169 | Compiles |
|-----|--|--|--------------------|------------------|
| | Frequency Stability | 73.1545 | Yes | Complies |
| | Transient behaviour | | N/A(note 1) | N/A |
| | Notes: 1 The EUT is not a keyed carrier system; the | erefore the test was not perfo | rmed. | |
| 2. | Product Use: | FM Broadcast Tra | ansmitter | |
| 3. | Emission Designator: | F3E | | |
| 4. | Temperatures: | Ambient (Tnom) | 21°C | |
| 5. | Supply Voltages: | Vnom | +110Vac | |
| 6. | Voltage to Final RF Amplifying Stage: | | +46.0Vdc | |
| 7. | Current to Final RF Amplifying Stage: | | 19.9 Amps | |
| | Note: Vnom voltages are as stated above ur | nless otherwise shown on the | e test report page | |
| 8. | Equipment Category: | Single channel Two channel Multi-channel | [] [] [X] | |
| 9. | Channel spacing: | Narrowband Wideband | [X] [] | 200 kHz |
| 10. | Test Location Tr | aC Telecoms & Radio Up Holland Hull | [X] [] | |
| 11. | Modifications made during test program | | No modification | s were performed |

CARRIER POWER – CONDUCTED – PART 2.1046

Ambient temperature = 18°C Radio Laboratory

Relative humidity = 56%
Supply voltage = +110Vac
Channel number = See test results
Declared Output Power = 600 Watts



| Frequency MHz | Level at CMTA (dBm) | Output Cable & Attenuator loss (dB) | Conducted Output Power (dBm) | Conducted Output Power (Watts) | % of Declared output power |
|--------------------|---------------------------|---|------------------------------------|--------------------------------------|----------------------------|
| 87.5 | 7.5 | 50.31 | 57.81 | 603.94 | 100.65 |
| 98.0 | 7.5 | 50.32 | 57.82 | 605.34 | 100.89 |
| 108.0 | 7.4 | 50.38 | 57.78 | 599.79 | 99.96 |
| Output Power limit | | | 90 % < De | eclared Output Pow | er < 105% |

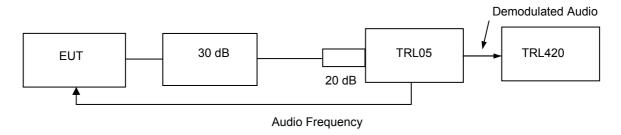
| TYPE OF EQUIPMENT | MAKER/ SUPPLIER | MODEL No | SERIAL No | TRL No | ACTUAL EQUIPMENT USED |
|-------------------|--------------------|----------|------------|--------|-----------------------------|
| ATTENUATOR | TENULINE | 8329-300 | 247 | N/A | х |
| ATTNEUATOR | SPINNER | 745357 | D37224 | UH225 | х |
| CMTA | R&S | CMTA05 | 894715/003 | 05 | х |

MODULATION CHARACTERISTICS – AUDIO RESPONSE – PART 2.1047

Ambient temperature = 18°C Radio Laboratory

Relative humidity = 66%
Supply voltage = +110Vac
Channel number = See test results
Declared Output Power = 600 Watts

Test Setup:



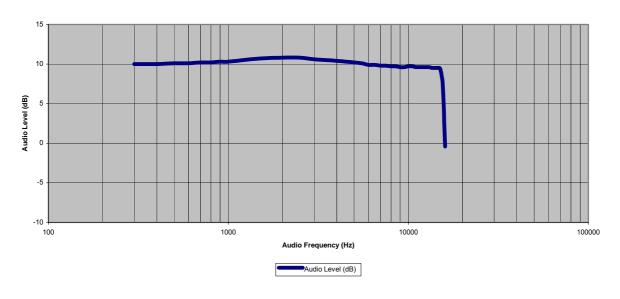
87.5 MHz - Audio Response



98.0 MHz - Audio Response



108.0 MHz - Audio Response



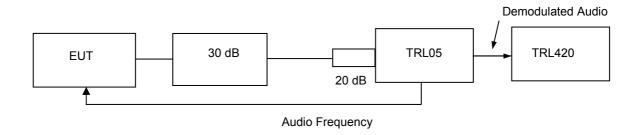
| TYPE OF EQUIPMENT | MAKER/ SUPPLIER | MODEL No | SERIAL No | TRL No | ACTUAL EQUIPMENT USED |
|-------------------|--------------------|----------|------------|--------|-----------------------------|
| ATTENUATOR | TENULINE | 8329-300 | 247 | N/A | x |
| ATTNEUATOR | SPINNER | 745357 | D37224 | UH225 | х |
| CMTA | R&S | CMTA52 | 894715/003 | 05 | х |
| CMS | R&S | CMS54 | 842509/002 | 420 | х |

MODULATION CHARACTERISTICS - MODULATION LIMITING - PART 2.1047

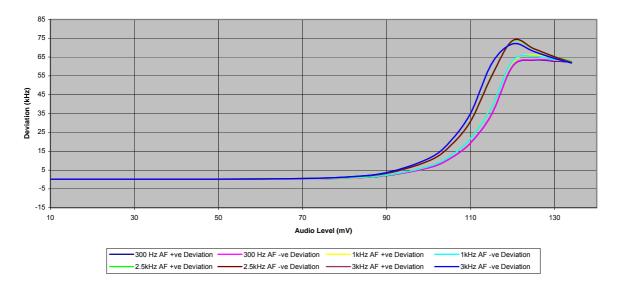
Ambient temperature = 18°C Radio Laboratory

Relative humidity = 66% Supply voltage = +110Vac Channel number = See test results Declared Output Power = 600 Watts

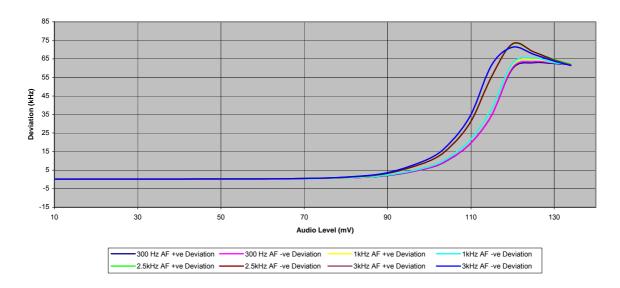
Test Setup:



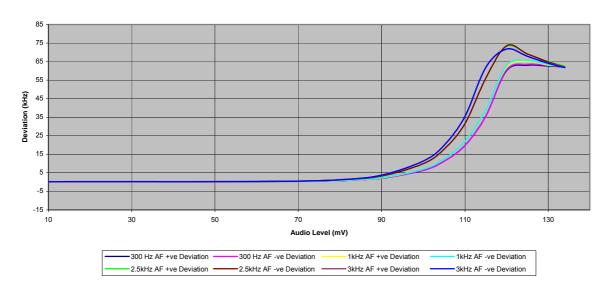
87.5 MHz - Modulation Limiting



98.0 MHz - Modulation Limiting



108.0 MHz - Moudulation Deviation

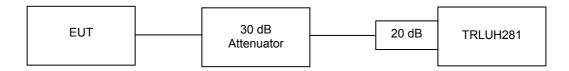


| TYPE OF EQUIPMENT | MAKER/ SUPPLIER | MODEL No | SERIAL No | TRL No | ACTUAL EQUIPMENT USED |
|-------------------|--------------------|----------|------------|--------|-----------------------------|
| ATTENUATOR | TENULINE | 8329-300 | 247 | N/A | х |
| ATTNEUATOR | SPINNER | 745357 | D37224 | UH225 | х |
| СМТА | R&S | CMTA52 | 894715/003 | 05 | х |
| CMS | R&S | CMS54 | 842509/002 | 420 | х |

EMISSIONS MASK - PART 2.1049

Ambient temperature = 18°C Radio Laboratory

Relative humidity = 66%
Supply voltage = +110Vac
Channel number = See test results
Declared Output Power = 600 Watts



| Operating | Audio Frequency Input | | | | |
|---------------|--------------------------------|----------|---|--------------------|--|
| Frequency | 3 kHz | 10 kHz | | 15 kHz | |
| 87.5 MHz | Complies With Mask | Complies | With Mask | Complies With Mask | |
| 98.0 MHz | Complies With Mask Complies Wi | | With Mask | Complies With Mask | |
| 108.0 MHz | Complies With Mask Complies V | | With Mask | Complies With Mask | |
| | Frequency Removed from carrier | | Minimum Attenuation Below Modulated Carrier | | |
| Emission Mask | 120 kHz – 240 kHz | | -25 dBc | | |
| Requirements | 240 kHz – 600 kHz | | -35 dBc | | |
| | > 600 kHz | | 43 + 10Log P (dB) or 80 dBc Whichever is the lesser | | |

See Plots in Annex E

Test equipment used for intermodulation test

| TYPE OF EQUIPMENT | MAKER/ SUPPLIER | MODEL No | SERIAL No | TRL No | ACTUAL EQUIPMENT USED |
|----------------------|--------------------|----------|-----------|--------|-----------------------------|
| SPECTRUM ANALYSER | R&S | FSU46 | 200034 | UH281 | X |
| ATTENUATOR | TENULINE | 8329-300 | 247 | N/A | X |
| ATTNEUATOR | SPINNER | 745357 | D37224 | UH225 | х |

SPURIOUS EMISSIONS - CONDUCTED - Part 2.1053

Ambient temperature = 18°C Radio Laboratory

Relative humidity = 66% Supply voltage = +110Vac Channel number = See test results Declared Output Power = 600 Watts



The test was set up as per the diagram. The unit was tested operating at maximum power and on three test frequencies.

The Spurious limit was calculated as follows:

On any frequency removed from the assigned frequency by more that 250% of the authorised bandwidth

At least 43 + 10 log PdB

 $(10logP_{watts}) - (43+10log (P_{watts} * 1000)) = LIMIT = -13 dBm$

RESULTS

| OPERATING FREQUENCY (MHz) | EMISSION FREQUENCY (MHz) | EMISSION LEVEL (dBm) | LIMIT (dBm) |
|---------------------------------|--------------------------------|----------------------------|----------------|
| 87.5 MHz | 175.0 MHz 262.5 MHz | -24.50 -20.00 | -13 |
| 98.0 MHz | 196.0 MHz 294.0 MHz | -26.22 -24.73 | -13 |
| 108.0 MHz | 216.0 MHz 324.0 MHz | -25.30 -17.30 | -13 |

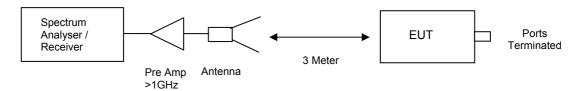
See Annex F for Plots

The test equipment used for the Transmitter Conducted Emissions:

| TYPE OF EQUIPMENT | MAKER/ SUPPLIER | MODEL No | SERIAL No | TRL No | ACTUAL EQUIPMENT USED |
|----------------------|--------------------|--------------|-----------|-----------|-----------------------------|
| SPECTRUM ANALYSER | ANRITSU | MS2665C | MT26089 | 479 | х |
| ATTENUATOR | TENULINE | 8329-300 | 247 | N/A | х |
| ATTNEUATOR | SPINNER | 745357 | D37224 | UH225 | x |
| BAND PASS FILTER | TELONIC | TTF125-5-5EE | 50192-3 | UH275 (b) | х |
| BAND PASS FILTER | TELONIC | TTF250-5-5EE | 50193-3 | UH275 (c) | х |

AMPLIFIER SPURIOUS EMISSIONS - RADIATED - Part 2.1053- UPLINK

Ambient temperature = 16°C
Relative humidity = 57%
Conditions = OATS
Supply voltage = +110Vac
Declared Output Power = 600 Watts



The test was set up as per the diagram. The unit was tested operating maximum power on three test frequencies with a 50 ohm load on the output.

The Spurious limit was calculated as follows:

On any frequency removed from the assigned frequency by more that 250% of the authorised bandwidth

At least 43 + 10 log PdB

$$(10logP_{watts}) - (43+10log (P_{watts} * 1000)) = LIMIT = -13 dBm$$

RESULTS

| OPERATING FREQUENCY | FREQ. (MHz) | MEAS. Rx. (dBμV) | CABLE LOSS (dB) | ANT FACTOR | FIELD STRENGTH (dBµV/m) | CALCULATED EIRP (dBm) | LIMIT (dBm) |
|---------------------|--|--|-----------------------|---------------|-------------------------------|-----------------------------|----------------|
| 87.5 MHz | | No Significant Emissions within 20 dB of the Limit | | | | | |
| 98.0 MHz | No Significant Emissions within 20 dB of the Limit | | | | | | -13 |
| 108.0 MHz | | No Significant Emissions within 20 dB of the Limit | | | | | |

See Annex G for Plots

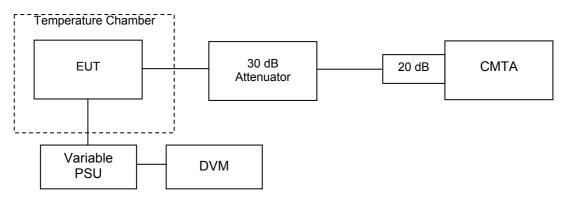
The test equipment used for the Transmitter Spurious Emissions:

| TYPE OF EQUIPMENT | MAKER/ SUPPLIER | MODEL No | SERIAL No | TRL No | ACTUAL EQUIPMENT USED |
|----------------------|--------------------|----------|------------|--------|-----------------------------|
| HORN | EMCO | 3115 | 9010-3580 | 138 | х |
| RECEIVER | R&S | ESVS10 | 844594/002 | 352 | х |
| PRE AMPLIFIER | HP | 8449B | 3008A016 | 572 | x |
| ANTENNA | CHASE | CBL6612B | 2803 | UH93 | x |
| SPECTRUM ANALYSER | R&S | FSU46 | 200034 | UH281 | х |

FREQUENCY STABILITY - CONDUCTED - Part 2.1055

Ambient temperature = 20°C Radio Laboratory

Relative humidity = 50%
Supply voltage = +110Vac
Channel number = See test results
Declared Output Power = 600 Watts



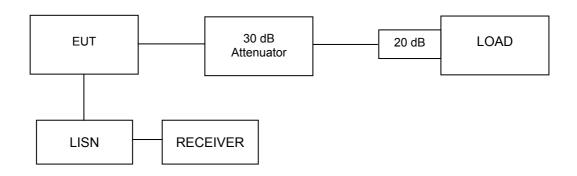
| Temperature | | Frequency (MHz) / Drift (Hz) | | | | | |
|-------------|---------------|------------------------------|--------------|---------------|--------------|----------------|--------------|
| °C | Voltage | 87.5 (MHz) | ∆ Fc (Hz) | 98.0 (MHz) | ∆ Fc (Hz) | 108.0 (MHz) | ∆ Fc (Hz) |
| 0 | Nominal | 87.50108 | 1080 | 98.00124 | 1240 | 108.00140 | 1400 |
| 10 | Nominal | 87.50087 | 870 | 98.00093 | 930 | 108.00098 | 980 |
| 20 | 85 % Nominal | 87.50018 | 180 | 98.00020 | 200 | 108.00017 | 170 |
| 20 | Nominal | 87.50030 | 300 | 98.00029 | 290 | 108.00028 | 280 |
| 20 | 115 % Nominal | 87.50022 | 220 | 98.00031 | 310 | 108.00040 | 400 |
| 30 | Nominal | 87.50002 | 20 | 98.00010 | 100 | 107.99991 | -90 |
| 40 | Nominal | 87.49967 | -330 | 97.99968 | -320 | 107.99973 | -270 |
| 50 | Nominal | 87.49950 | -550 | 97.99942 | -580 | 107.99930 | -700 |
| Limit | ± 2000 Hz | 1080 | Hz | 1240 | Hz | 1400 | Hz |

| TYPE OF EQUIPMENT | MAKER/ SUPPLIER | MODEL No | SERIAL No | TRL No | ACTUAL EQUIPMENT USED |
|------------------------|--------------------|--------------|------------|--------|-----------------------------|
| ATTENUATOR | TENULINE | 8329-300 | 247 | N/A | X |
| ATTNEUATOR | SPINNER | 745357 | D37224 | UH225 | x |
| СМТА | R&S | CMTA05 | 894715/003 | 05 | x |
| TEMPERATURE CHAMBER | SHARTREE | TCC 125-815P | CS 203 | 11 | х |
| TEMPERATURE INDICATR | FLUKE | 52 SERIES II | 74700044 | 426 | x |
| VARIAC | RS COMPONENTS | 8A | 207-914 | UH34 | x |
| MULTIMETER | AVOmeter | M3004 | M3270006 | UH41 | х |

AC POWERLINE CONDUCTION - CONDUCTED - Part 2.

20°C Ambient temperature Radio Laboratory

Relative humidity 50% Supply voltage = +110Vac Declared Output Power 600 Watts



| EMISSION FREQUENCY (kHz) | EMISSION LEVEL (dBµV) | DETECTOR | LINE | LIMIT (dBµV) |
|--------------------------------|-----------------------------|------------|---------|-----------------|
| 0.185 | 50.02 | Average | Neutral | 54.26 |
| 0.190 | 46.65 | Average | Live | 54.04 |
| 0.210 | 49.04 | Average | Live | 53.21 |
| 0.250 | 48.14 | Average | Live | 51.76 |
| 0.310 | 46.73 | Average | Live | 49.97 |
| 0.375 | 49.76 | Quasi Peak | Neutral | 58.39 |
| 0.405 | 47.78 | Quasi Peak | Live | 57.75 |

Notes:

- EUT Test operating at full power on all channels.
 Results recorded are worst case for each emission frequency.
- 3. Only emission within 10 dB of the limit.4. See annex H for sample plot.

| TYPE OF EQUIPMENT | MAKER/ SUPPLIER | MODEL No | SERIAL No | TRL No | ACTUAL EQUIPMENT USED |
|-------------------|--------------------|-------------------------|-------------|--------|-----------------------------|
| ATTENUATOR | TENULINE | 8329-300 | 247 | N/A | x |
| ATTNEUATOR | SPINNER | 745357 | D37224 | UH225 | x |
| LISN | R&S | ESH3- Z5.831.5518.52 | 8407 31/015 | UH195 | х |
| RECEIVER | R&S | ESHS10 | 841429/012 | UH187 | х |

ANNEX A PHOTOGRAPHS

PHOTOGRAPH No. 1

TEST SETUP



ANNEX B APPLICANT'S SUBMISSION OF DOCUMENTATION LIST

APPLICANT'S SUBMISSION OF DOCUMENTATION LIST

| a. | ТСВ | - - | APPLICATION FEE | [X] |
|----|--|-------------|--|-------------------|
| b. | AGENT'S LETTER OF AUTHORISATION | - | | [X] |
| C. | MODEL(s) vs IDENTITY | - | | [] |
| d. | ALTERNATIVE TRADE NAME DECLARATION(s) | - | | [] |
| e. | LABELLING | - - - | PHOTOGRAPHS DECLARATION DRAWINGS | [] [] [] |
| f. | TECHNICAL DESCRIPTION | - | | [X] |
| g. | BLOCK DIAGRAMS | - - - | Tx Rx PSU AUX | [X] [] [] |
| h. | CIRCUIT DIAGRAMS | - - - | Tx Rx PSU AUX | [] [] [] |
| i. | COMPONENT LOCATION | - - - | Tx Rx PSU AUX | [] [] [] |
| j. | PCB TRACK LAYOUT | - - - | Tx Rx PSU AUX | [] [] [] |
| k. | BILL OF MATERIALS | - - - | Tx Rx PSU AUX | [] [] [] |
| l. | USER INSTALLATION / OPERATING INSTRUCTIONS | - | | [X] |

ANNEX C EQUIPMENT CALIBRATION

| TRL | Equipment | | Last Cal | Calibration | Due For |
|-----------|-----------------------|-----------------|------------------|-----------------|--------------|
| Number | Туре | Manufacturer | Calibration | Period | Calibration |
| | | | | | |
| UH06/07 | IC OATS Submission | TRL | 01/06/2007 | 24 | 01/06/2009 |
| UH06/07 | NSA Calibration | TRL | 17/12/2007 | 12 | 17/12/2008 |
| UH034 | Variac | RS | Use Ca | alibrated Multi | meter |
| UH041 | Multimeter | AVOmeter | 21/01/2009 | 12 | 21/01/2010 |
| UH093 | Bilog Antenna | Chase | 21/05/2007 | 24 | 21/05/2009 |
| UH187 | Receiver | R&S | 09/12/2008 | 12 | 09/12/2009 |
| UH195 | LISN | R&S | 19/01/2009 | 12 | 19/01/2010 |
| UH225 | Attenuator | Spinner | Calibrate In use | | |
| UH275 (b) | Bandpass Filter | Telonic | С | alibrate In use |) |
| UH275 © | Bandpass Filter | Telonic | С | alibrate In use |) |
| UH281 | Spectrum Analyser | R&S | 28/10/2008 | 12 | 28/10/2009 |
| L005 | CMTA | R&S | 29/10/2008 | 12 | 29/10/2009 |
| L011 | Temperature Chamber | Shartree | Use Calibrate | ed Temperatu | re Indicator |
| L138 | 1-18GHz Horn | EMCO | 23/05/2007 | 24 | 23/05/2009 |
| L352 | Receiver | R&S | 09/12/2008 | 12 | 09/12/2009 |
| L420 | CMS | R&S | | | |
| L426 | Temperature Indicator | Fluke | 21/01/2009 | 12 | 21/01/2010 |
| L479 | Analyser | Anritsu | 22/09/2008 | 12 | 22/09/2009 |
| L572 | Pre Amp | Agilent | 04/07/2008 | 12 | 04/07/2009 |
| N/A | Attenuator | Teluline | С | alibrate In use | ; |

ANNEX D MEASUREMENT UNCERTAINTY

Radio Testing - General Uncertainty Schedule

All statements of uncertainty are expanded standard uncertainty using a coverage factor of 1.96 to give a 95% confidence where no required test level exists.

[1] Adjacent Channel Power

Uncertainty in test result = 1.86dB

[2] Carrier Power

```
Uncertainty in test result (Equipment - TRLUH120) = 2.18dB
Uncertainty in test result (Equipment – TRL05) = 1.08dB
Uncertainty in test result (Equipment – TRL479) = 2.48dB
```

[3] Effective Radiated Power

Uncertainty in test result = 4.71dB

[4] Spurious Emissions

Uncertainty in test result = 4.75dB

[5] Maximum frequency error

```
Uncertainty in test result (Equipment - TRLUH120) = 119ppm Uncertainty in test result (Equipment – TRL05) = 0.113ppm Uncertainty in test result (Equipment – TRL479) = 0.265ppm
```

[6] Radiated Emissions, field strength OATS 14kHz-18GHz Electric Field

Uncertainty in test result (14kHz - 30MHz) = 4.8dB, Uncertainty in test result (30MHz - 1GHz) = 4.6dB, Uncertainty in test result (1GHz-18GHz) = 4.7dB

[7] Frequency deviation

Uncertainty in test result = 3.2%

[8] Magnetic Field Emissions

Uncertainty in test result = 2.3dB

[9] Conducted Spurious

```
Uncertainty in test result (Equipment TRL479) Up to 8.1GHz = 3.31dB
Uncertainty in test result (Equipment TRL479) 8.1GHz – 15.3GHz = 4.43dB
Uncertainty in test result (Equipment TRL479) 15.3GHz – 21GHz = 5.34dB
Uncertainty in test result (Equipment TRLUH120) Up to 26GHz = 3.14dB
```

[10] Channel Bandwidth

Uncertainty in test result = 15.5%

[11] Amplitude and Time Measurement - Oscilloscope

Uncertainty in overall test level = **2.1dB**, Uncertainty in time measurement = **0.59%**, Uncertainty in Amplitude measurement = **0.82%**

[11] Power Line Conduction

Uncertainty in test result = 3.4dB

[12] Spectrum Mask Measurements

Uncertainty in test result = 2.59% (frequency)
Uncertainty in test result = 1.32dB (amplitude)

[13] Adjacent Sub Band Selectivity

Uncertainty in test result = 1.24dB

[14] Receiver Blocking - Listen Mode, Radiated

Uncertainty in test result = 3.42dB

[15] Receiver Blocking - Talk Mode, Radiated

Uncertainty in test result = 3.36dB

[16] Receiver Blocking - Talk Mode, Conducted

Uncertainty in test result = 1.24dB

[17] Receiver Threshold

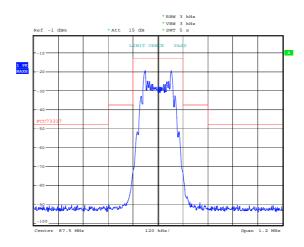
Uncertainty in test result = 3.23dB

[18] Transmission Time Measurement

Uncertainty in test result = 7.98%

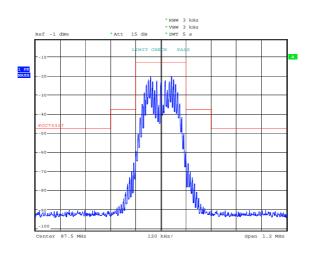
ANNEX E EMISSIONS MASK

BOTTOM CHANNEL - 87.5 MHz



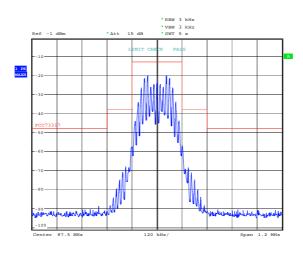
Date: 24.FEB.2009 08:45:18

Audio Frequency – 3 kHz



Date: 24.FEB.2009 08:47:4

Audio Frequency – 10 kHz

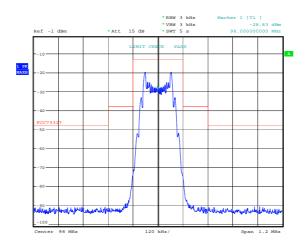


Date: 24 PPP 2000 00:42:00

Audio Frequency – 15 kHz

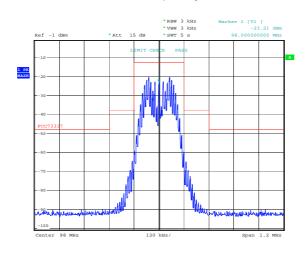
8F1999WRP1

MIDDLE CHANNEL - 98.0 MHz



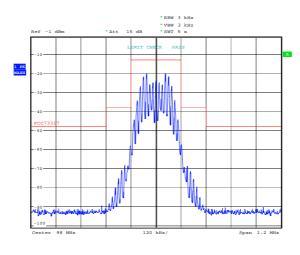
Date: 24.FEB.2009 08:53:16

Audio Frequency – 3 kHz



Date: 24.FEB.2009 08:52:28

Audio Frequency – 10 kHz

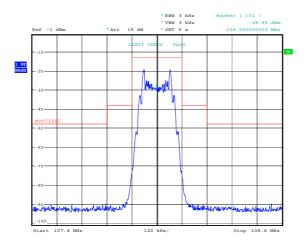


Date: 24.FEB.2009 09:41:58

Audio Frequency – 15 kHz

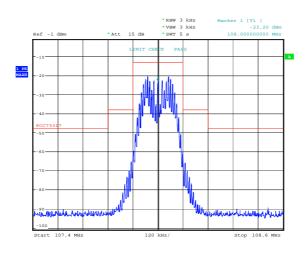
8F1999WRP1

TOP CHANNEL – 108.0 MHz



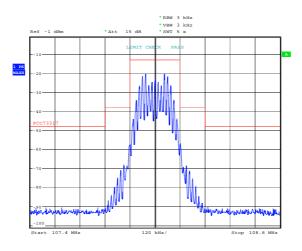
Date: 24.FEB.2009 09:35:4

Audio Frequency – 3 kHz



Date: 24.FEB.2009 09:36:3

Audio Frequency – 10 kHz



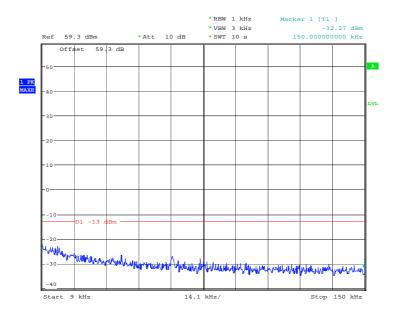
Data: 24 PPD 2000 00:40:1

Audio Frequency – 15 kHz

8F1999WRP1

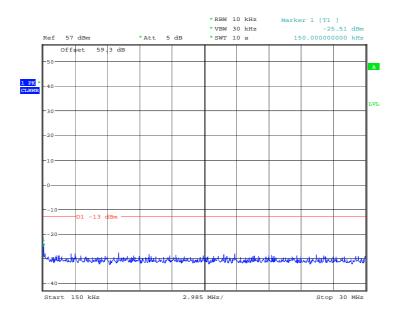
ANNEX F CONDUCTED SPURIOUS EMISSIONS

BOTTOM CHANNEL - 87.5 MHz



Date: 24.FEB.2009 10:04:11

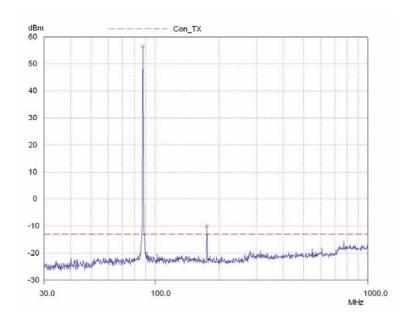
9 kHz – 150 kHz



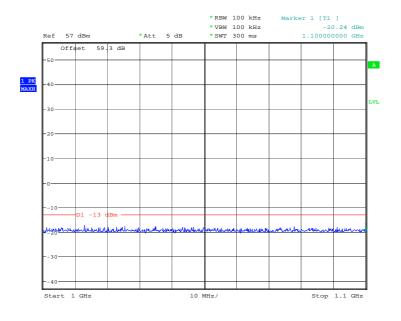
Date: 24.FEB.2009 10:13:21

150 kHz - 30 MHz

BOTTOM CHANNEL - 87.5 MHz



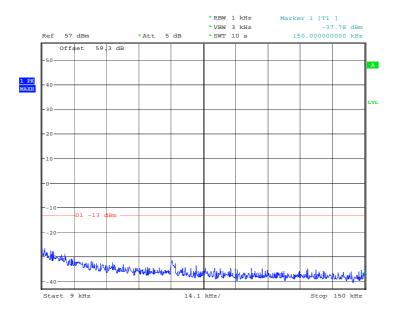
30 MHz - 1 GHz



Date: 24.FEB.2009 10:38:28

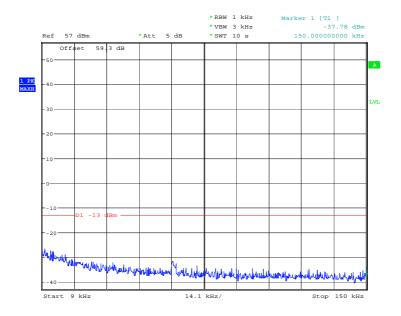
1 GHz - 1.1 GHz

MIDDLE CHANNEL - 98.0 MHz



Date: 24.FEB.2009 10:14:55

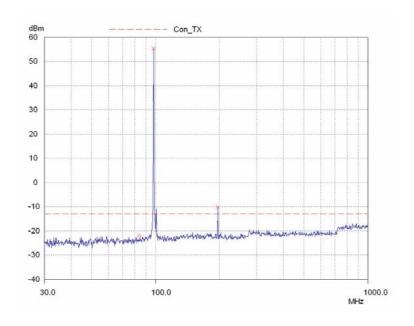
9 kHz – 150 kHz



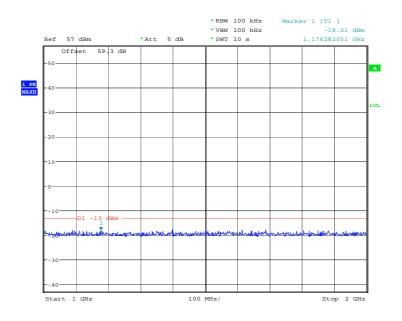
Date: 24.FEB.2009 10:14:55

150 kHz - 30 MHz

MIDDLE CHANNEL - 98.0 MHz



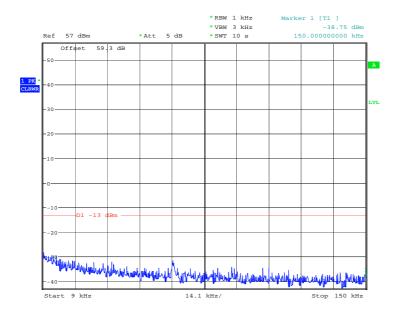
30 MHz - 1 GHz



Date: 24.FEB.2009 10:24:21

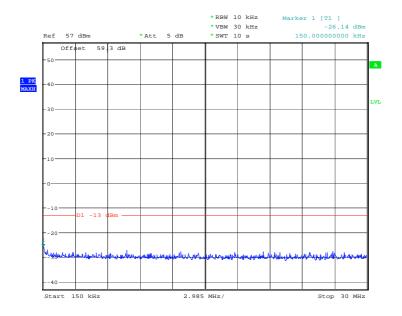
1 GHz – 2 GHz

TOP CHANNEL - 108.0 MHz



Date: 24.FEB.2009 10:11:17

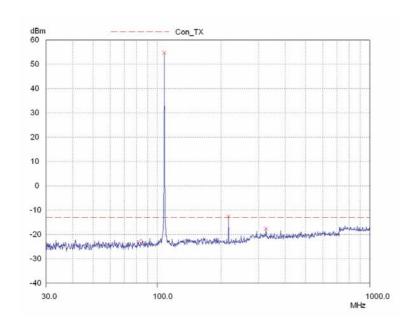
9 kHz – 150 kHz



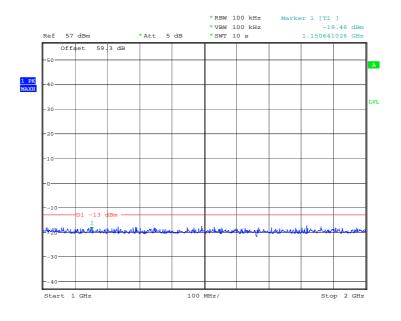
Date: 24.FEB.2009 10:17:07

150 kHz - 30 MHz

TOP CHANNEL - 108.0 MHz



30 MHz - 1 GHz



Date: 24.FEB.2009 10:22:26

1 GHz - 2 GHz

ANNEX G RADIATED SPURIOUS EMISSIONS

BOTTOM CHANNEL - 87.5 MHz

TRaC Global Ltd 19 Feb 2009 12:19 E-Field Radiation (30MHz-1GHz) Tx 600 EUT:

Manuf:

BW Broadcast

Op Cond: Prescan 30MHz - 1000MHz

Operator:

S Hodgkinson

Part15 Test Spec:

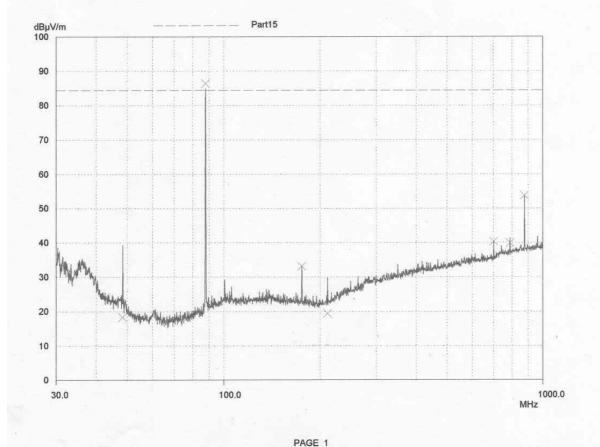
Unit in Tx mode, carrier only, bottom channel selected, maximum output power selected. Comment:

Rx antenna Vertical.

Scan Settings (1 Range) Frequencies Receiver Settings Stop Start Step IF BW Detector M-Time Atten Preamp OpRge 50kHz 120kHz ON 60dB 30MHz 1000MHz PK Auto 1msec No. Name Start Transducer UH72 1 21 30MHz 1000MHz 22 30MHz 1000MHz **UH93**

Final Measurement:

X QP Detector: Meas Time: 2sec Subranges: 50 Acc Margin: 10 dB



30 MHz - 1 GHz

MIDDLE CHANNEL - 98.0 MHz

TRaC Global Ltd 19 Feb 2009 12:36

E-Field Radiation (30MHz-1GHz)

EUT:

Tx 600 **BW Broadcast**

Manuf: Op Cond:

Prescan 30MHz - 1000MHz

Operator:

S Hodgkinson

Test Spec:

Part15

Comment:

Unit in Tx mode, carrier only, middle channel selected, maximum output power selected.

Scan Settings Frequencies

(1 Range)

Start Stop 30MHz 1000MHz Step 50kHz IF BW 120kHz PK

Detector

Receiver Settings M-Time Atten Auto 1msec

Preamp ON

OpRge 60dB

Transducer

No. 21 22

30MHz 30MHz

1000MHz 1000MHz

X QP

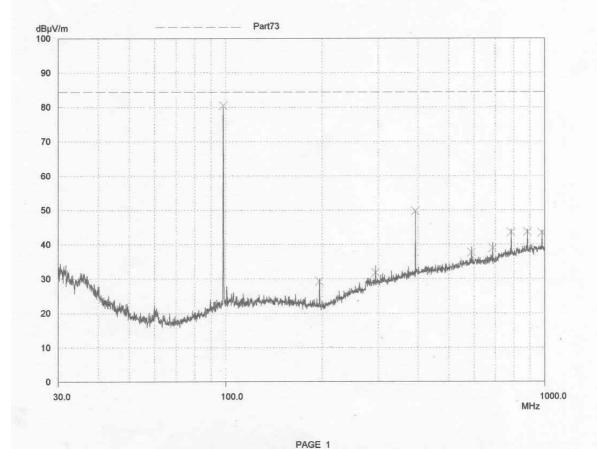
2sec 50

10 dB

Name UH72 **UH93**

Final Measurement:

Detector: Meas Time: Subranges: Acc Margin:



30 MHz - 1 GHz

TOP CHANNEL - 108.0 MHz

TRaC Global Ltd 19 Feb 2009 12:58

E-Field Radiation (30MHz-1GHz)

EUT:

Tx 600

Manuf:

BW Broadcast

Op Cond:

Prescan 30MHz - 1000MHz S Hodgkinson

Operator: Test Spec:

Part15

Comment:

Unit in Tx mode, carrier only, top channel selected, maximum output power selected.

Scan Settings (1 Range) Receiver Settings Frequencies IF BW Start Stop Step Detector M-Time Atten Preamp OpRge 30MHz 1000MHz 50kHz 120kHz PK 1msec Auto ON 60dB

Transducer 1

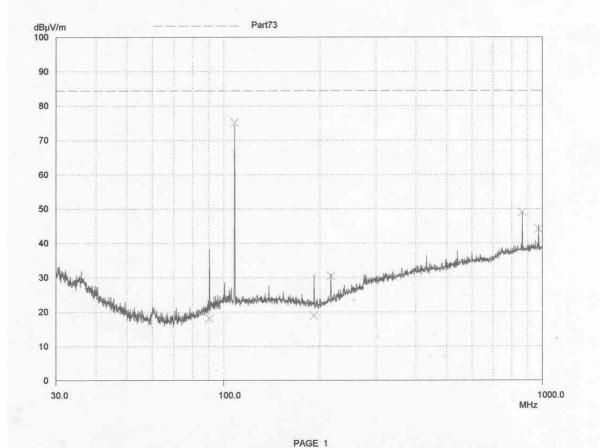
No. 21 22

30MHz 30MHz 1000MHz 1000MHz

Name UH72 **UH93**

Final Measurement:

X QP Detector: Meas Time: 2sec 50 Subranges: Acc Margin: 10 dB



30 MHz - 1 GHz

ANNEX H AC POWERLINE CONDUCTION

TRaC Global 25 Feb 2009 14:42

Powerline Conduction 150kHz - 30MHz

EUT:

Tx600

Manuf:

BW Broadcast

Op Cond:

LISN UH195, cable UH21 & Receiver UH187

Operator:

S Hodgkinson

Test Spec:

EN55022 Class B (or Variant)

Acc Margin:

Comment:

Live Line, 120V, 60Hz

108.0MHz Permanent transmit, Maximum output power.

(1 Range) Scan Settings Receiver Settings Frequencies IF BW OpRge Start Detector M-Time Preamp Stop Step Atten 150kHz 30MHz 5kHz 10kHz PK+AV 50msec Auto OFF 60dB Transducer Start Name No. 9kHz 30MHz UH21 1 UH195 150kHz 30MHz 2 X QP / + AV Final Measurement: Detectors: Meas Time: 2sec Subranges: 25

20 dB

