TEST REPORT
FROM
RADIO FREQUENCY
INVESTIGATION LTD.

Test Of: Tacktick Ltd.
Micronet mn100 T110 Digital Display

To: FCC Part 15.249

Test Report Serial No:
RFI/MPTB1/RP44514JD19A

This Test Report Is Issued Under The Authority Of Richard Jacklin, Operations Director: 	**Checked By: Tony Henriques** 
Tested By: Elin Danielson 	**Release Version No:PDF01**
Issue Date: 15 March 200415 March 2004	**Test Dates: 22 January 2004 to 06 February 2004**

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1. Client Information

Company Name:	Tacktick Ltd.
Address:	22 North Street Emsworth Hampshire PO10 7DG
Contact Name:	Mr M. Johnson

2. Equipment Under Test (EUT)

The following information (with the exception of the Date of Receipt) has been supplied by the client:

2.1. Identification Of Equipment Under Test (EUT)

Brand Name:	Micronet mn100
Model Name or Number:	T110 Digital Display
Serial Number:	0401/00062 *(for sample used to perform transmit measurements)* 0401/00061 *(for sample used to perform receive measurements)*
FCC ID	RX9-T110-916
Country of Manufacture:	UK
Date of Receipt:	29 January 2004

2.2. Description Of EUT

The equipment under test is a low power radio networked leisure marine instrumentation display unit.

2.3. Modifications Incorporated In EUT

For the purposes of testing only (i.e. to allow testing of transmitter parameters to be performed), a sample of the EUT was software modified to increase the 'transmit on' time to 250 mS every second from the normal (and very low) operating mode duty cycle 'transmit on' time. Additionally the EUT was modified to provide a direct connection point to the internal 3V rails (post charging circuit) for an external 3V DC power supply. This was necessary to allow the EUT to operate at this increased transmission rate as the internal battery supply (which is recharged by solar panels) is not rated for this extended transmission rate and would discharge very quickly i.e. the EUT would no longer operate in this test mode.

2.4.Additional Information Related To Testing

Power Supply Requirement:	Internal battery supply of 3V (charged by solar panels)		
Intended Operating Environment:	Marine		
Equipment Category:	Mobile (in a boat)		
Type of Unit:	Transceiver		
Interface Ports:	None		
Transmit & Receive Frequency Range	Fixed, Single frequency		
Transmit & Receive Channels Tested	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	N/A	N/A	916.0 MHz
Occupied Bandwidth	200 kHz		
Highest Unintentionally Generated Frequency	916.07 MHz		
Maximum Fieldstrength @ 3 metres	89.9 dBμV/m		

2.5. Support Equipment

No support equipment was used to exercise the EUT during testing.

3. Methods And Procedures

Reference:	FCC Part 15 Subpart C: 2002 (Section 15.249)
Title:	Code of Federal Regulations, Part 15 (47CFR15) Radio Frequency Devices.
Comments:	A description of the test facility used for this test is on file with, and has been accepted by, the Federal Communications Commission as required by Section 2.948 of Federal Rules.
Purpose of Test:	To determine whether the equipment complied with the requirements of the specification for the purposes of certification.

The methods and procedures used were as detailed in:

ANSI C63.2 (1987)
Title: American National Standard for Instrumentation - Electromagnetic noise and field strength.

ANSI C63.4 (2001)
Title: American National Standard Methods of Measurement of Electromagnetic Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

ANSI C63.5 (1988)
Title: American National Standard for the Calibration of antennas used for Radiated Emission measurements in Electromagnetic Interference (EMI) control.

ANSI C63.7 (1988)
Title: American National Standard Guide for Construction of Open Area Test Sites for performing Radiated Emission Measurements.

CISPR 16-1: (1999)
Title: Specification For Radio Disturbance and Immunity Measuring Apparatus and Methods. Part 1: Radio Disturbance and Immunity Measuring Apparatus.

DA00-705 (2000)
Title: Filing and Frequency Measurement Guidelines for Frequency Hopping Spread Spectrum Systems.

3.1. Definition Of Measurement Equipment

The measurement equipment used complied with the requirements of the standards referenced in the Methods & Procedures section above. Appendix 1 contains a list of the test equipment used.

4. Deviations From The Test Specification

None.

5. Operation Of The EUT During Testing

5.1. Operating Conditions

The EUT was tested in a normal laboratory environment. During testing, the transmit sample of the EUT was powered by an external DC supply of 3V whilst the receive sample was powered by its internal power supply.

Note: Due to the increased 'Transmit On Time of the EUT to facilitate testing it was necessary to apply and ext

5.2. Operating Modes

The EUT was tested in the following operating modes, unless otherwise stated.

Transmit tests: Constant talker Mode i.e. extended transmit time of 250 mS in every second
Receive tests: Normal operation mode

5.3. Configuration And Peripherals

The EUT was tested in the following configuration:

Standalone.

6. Summary Of Test Results

Part 15.249

Range Of Measurements	Specification Reference	Port Type	Compliancy Status
Receiver Radiated Spurious Emissions	C.F.R. 47 FCC Part 15: 2002 Section 15.109	Enclosure	Complied
Transmitter Fundamental Fieldstrength	C.F.R. 47 FCC Part 15: 2002 Section 15.249(a)	Antenna	Complied
Transmitter 20 dB Bandwidth	C.F.R. 47 FCC Part 2: 2002 Section 2.1049	Antenna	Complied
Transmitter Radiated Spurious Emissions	C.F.R. 47 FCC Part 15: 2002 Section 15.249(a)(d)(e) & 15.209	Antenna	Complied
Transmitter Band Edge Radiated Emissions	C.F.R. 47 FCC Part 15: 2002 Section 15.249(d) & 15.209	Antenna	Complied

6.1. Location Of Tests

All the measurements described in this report were performed at the premises of Radio Frequency Investigation Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ, England.

7. Measurements, Examinations And Derived Results

7.1. General Comments

7.1.1. This section contains test results only. Details of the test methods and procedures can be found in Section 9 of this report.

7.1.2. Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to Section 10 for details of measurement uncertainties.

8. Test Results

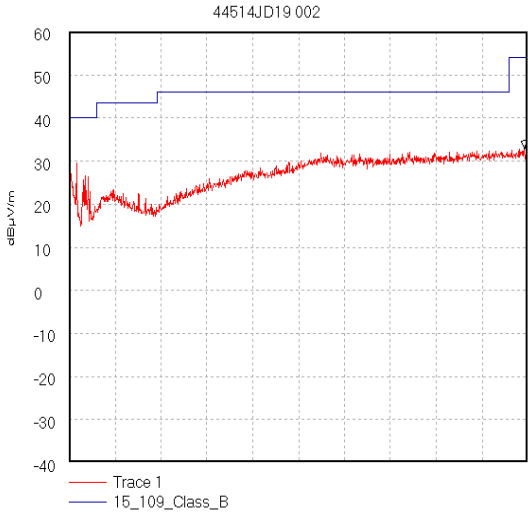
8.1. Receiver Radiated Spurious Emissions: Section 15.109

8.1.1. Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz)

8.1.1.1. The EUT was configured as for radiated field strength emissions testing as described in Section 9 of this report.

8.1.1.2. Tests were performed to identify the maximum receiver radiated emissions levels.

Frequency (MHz)	Antenna. Polarity	Q-P Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
45.643	Vert.	24.2	40.0	15.8	Complied
58.982	Vert.	9.0	40.0	31.0	Complied



Note: these plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Note: The plot above incorrectly shows the Resolution Bandwidth (RBW) to be 83.91 kHz. This is due to a glitch in the software used to transpose the on-screen image on the spectrum analyser to the PC holding the soft copy of the plot. It is confirmed that the measurements were made using a Resolution Bandwidth of 120 kHz.

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Receiver Radiated Spurious Emissions: Section 15.109 (Continued)

Electric Field Strength Measurements (Frequency Range: 1.0 to 5.0 GHz)

Highest Peak Level

Frequency (GHz)	Antenna. Polarity	Peak Detector Level (dBµV)	Antenna Factor	Cable Loss	Actual Peak Level (dBµV/m)	**Average Limit (dBµV/m)	Margin (dB)	Result
*4.962	Vert.	15.2	24.2	1.8	41.3	54.0	12.7	Complied

**Note: No spurious emissions were detected above the noise floor of the measuring receiver; therefore, the highest peak noise floor reading of the measuring receiver was recorded as shown in the table above.*
***Note: The peak level was compared to the average limit as opposed to being compared to the peak limit because this is the more onerous limit.*

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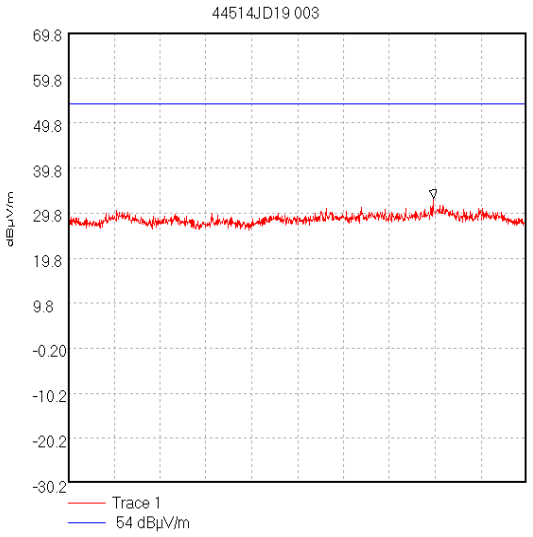
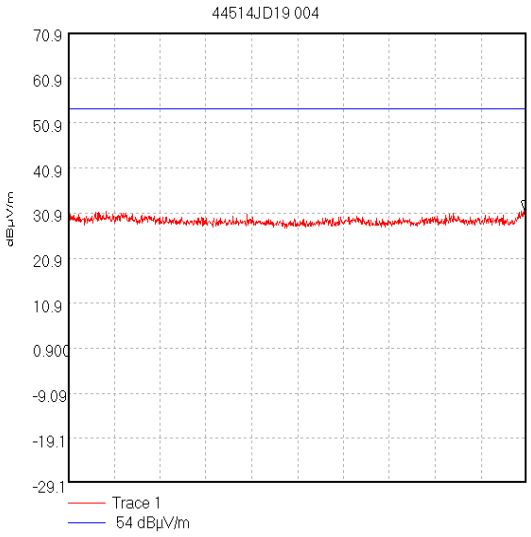
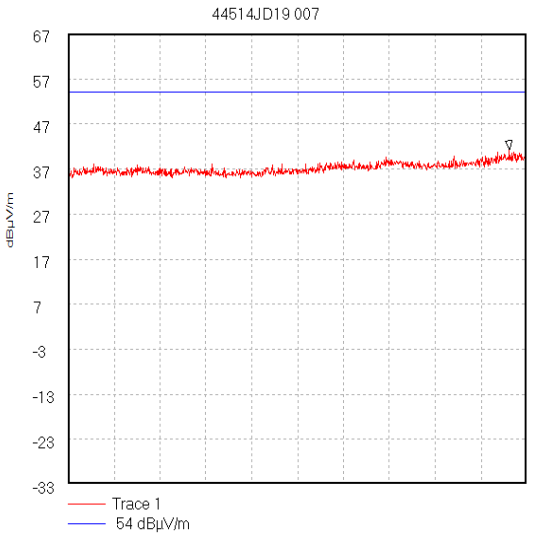
Receiver Radiated Spurious Emissions: Section 15.109 (Continued)



Start 1.0 GHz; Stop 2.0 GHz
Ref 69.8 dBµV/m; Ref Offset 12.8 dB; 10 dB/div
RBW 1000.0 kHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 1.797 GHz, 32.98 dBµV/m
Display Line: 54 dBµV/m; ; Limit Test Passed
30/01/2004 16:11:00



Start 2.0 GHz; Stop 4.0 GHz
Ref 70.9 dBµV/m; Ref Offset 13.9 dB; 10 dB/div
RBW 1000.0 kHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 3.989 GHz, 31.8 dBµV/m
Display Line: 54 dBµV/m; ; Limit Test Passed
30/01/2004 16:20:43



Start 4.0 GHz; Stop 5.0 GHz
Ref 67 dBµV/m; Ref Offset 14.9 dB; 10 dB/div
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 4.962 GHz, 41.26 dBµV/m
Display Line: 54 dBµV/m;
06/02/2004 11:55:58

Note: these plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

8.2. Transmitter Fundamental Field strength Section 15.249(a)

8.2.1. The EUT was configured as for radiated emissions testing as described in Section 9 of this report.

8.2.2. Tests were performed to identify the maximum field strength of the fundamental frequency.

Result:

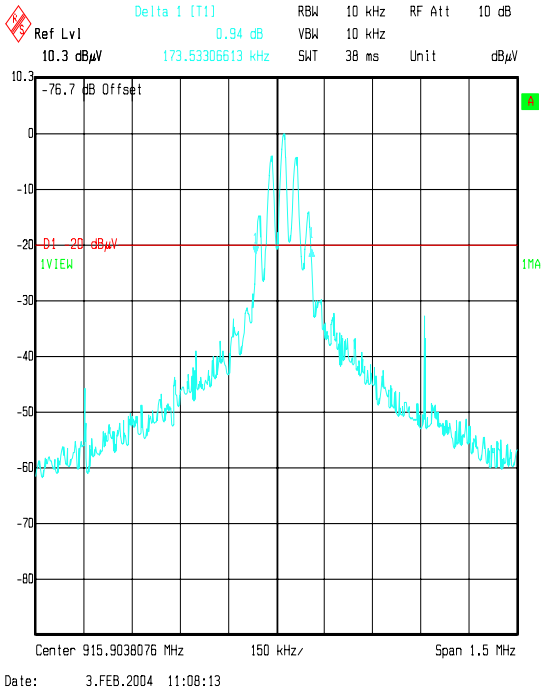
Frequency (MHz)	Ant. Pol.	Q-P Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
915.892	Horiz.	89.9	94.0	4.1	Complied

8.3.Transmitter 20 dB Bandwidth: Section 2.1049

8.3.1. The EUT was configured as for 20 dB bandwidth measurements as described in Section 9 of this report.

8.3.2. Tests were performed to identify the 20 dB bandwidth.

Transmitter 20 dB Bandwidth (kHz)
173.533



8.4. Transmitter Radiated Emissions: Section 15.249(a)(d)(e) & Section 15.209

8.4.1. Electric Field Strength Measurements: 30 to 1000 MHz.

8.4.1.1. The EUT was configured as for radiated emissions testing as described in Section 9 of this report.

8.4.1.2. Tests were performed to identify the maximum radiated spurious emissions levels.

Results:

Frequency (MHz)	Ant. Pol.	Q-P Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
65.178	Vert.	26.9	40.0	13.1	Complied
132.435	Vert.	33.8	43.5	9.7	Complied
176.947	Vert.	29.4	43.5	14.1	Complied
280.175	Vert.	35.8	46.0	10.2	Complied

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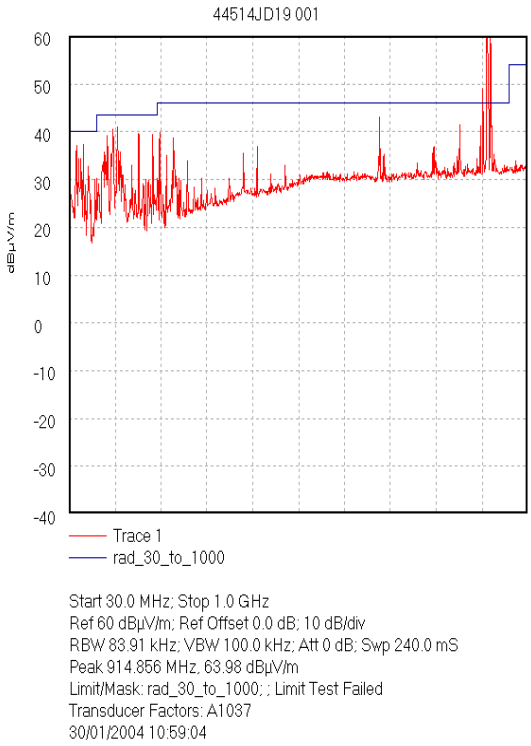
Transmitter Radiated Emissions (Continued)



Note: this plot is a pre-scan and for indication purposes only. For final measurements, see accompanying table.

Note: The emissions at 687.4 MHz, 856.9 MHz and the in-band emissions around the fundamental were transient in nature i.e. <100 milliseconds duration and not repeatable in the frequency domain i.e. as they were transient they never appeared at the same frequency twice. It was not possible to record any levels above the noise floor of the measuring receiver using a Quasi-Peak detector therefore the emissions were examined using a Peak detector. All emissions examined using a peak detector were at least 10 dB below the appropriate Quasi-Peak limit.

Note: The plot above incorrectly shows the Resolution Bandwidth (RBW) to be 83.91 kHz. This is due to a glitch in the software used to transpose the on-screen image on the spectrum analyser to the PC holding the soft copy of the plot. It is confirmed that the measurements were made using a Resolution Bandwidth of 120 kHz.

Transmitter Radiated Emissions (Continued)

8.4.2. Electric Field Strength Measurements: 1.0 to 9.3 GHz

Highest Peak Level:

Frequency (MHz)	Antenna Polarity	Peak Detector level (dBμV)	Antenna factor (dB)	Cable loss (dB)	Actual Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin (dB)	Result
1831.636	Vert.	30.3	21.9	1.1	53.3	74.0	20.7	Complied
2747.611	Vert.	21.9	20.7	1.3	43.9	74.0	30.1	Complied
3663.916	Vert.	20.6	20.9	1.5	43.0	74.0	31.0	Complied
8251.328	Vert.	3.6	30.3	2.3	36.3	74.0	37.7	Complied

Highest Average Level:

Frequency (MHz)	Antenna Polarity	Average Detector level (dBμV)	Antenna factor (dB)	Cable loss (dB)	Actual Average Level (dBμV/m)	Average Limit (dBμV/m)	Average Margin (dB)	Result
1831.636	Vert.	8.3	21.9	1.1	31.3*	54.0	22.7	Complied
2747.611	Vert.	-0.1	20.7	1.3	21.9*	54.0	32.1	Complied
3663.916	Vert.	-1.4	20.9	1.5	21.0*	54.0	33.0	Complied
8251.328	Vert.	-18.4	30.3	2.3	14.3*	54.0	39.7	Complied

**Note: As the EUT employs pulsed operation (whose pulse train exceeds 0.1 seconds), the average level of each emission was found by measuring the peak level of the emission and correcting them with the calculated duty cycle correction factor of -22 dB using the procedure detailed in ANSI C63.4-2001 Annex I.4 j).*

This was calculated as follows:

Duty cycle = on time/100 milliseconds or period (whichever is the lesser)

On time =7.94 milliseconds (from Duty Cycle plot DC01)

Duty cycle = 7.94/100 milliseconds (100 milliseconds being the lesser time period from Duty Cycle plot DC02)

Duty cycle = 0.0794 or 7.94%

To obtain correction factor in dB i.e. to correct the peak reading to the average value of the emission in dB:
20 x log (0.0794) = -22.0 dB

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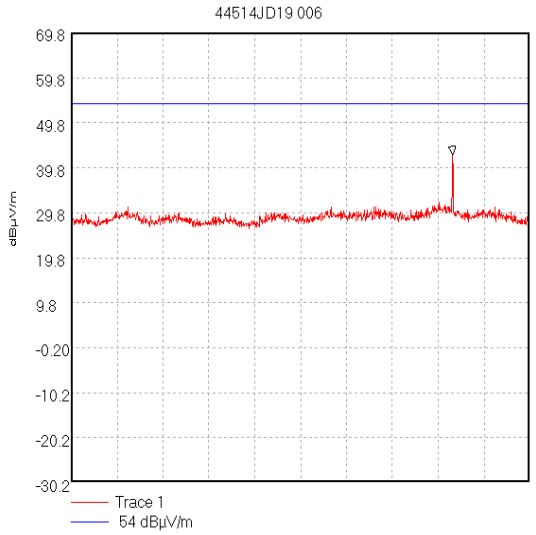
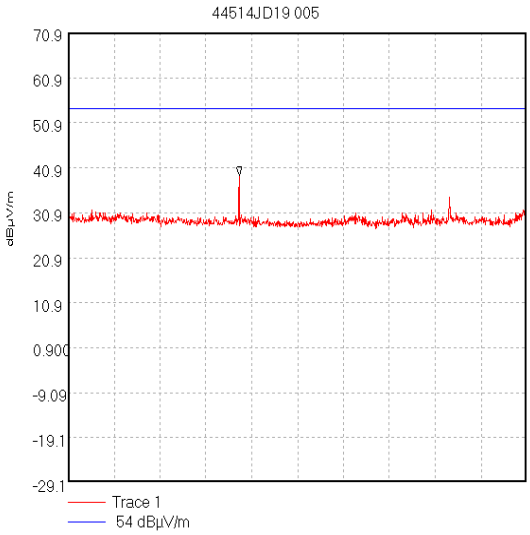
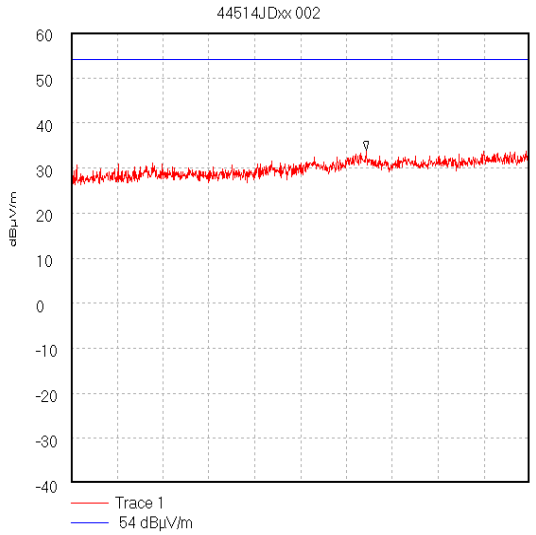
Transmitter Radiated Emissions (Continued)



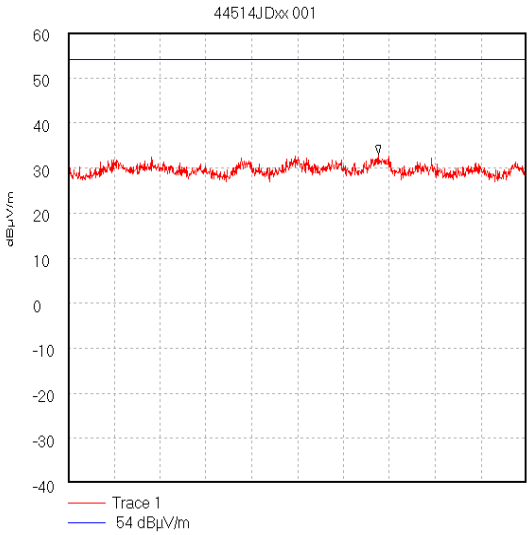
Start 1.0 GHz; Stop 2.0 GHz
Ref 69.8 dBµV/m; Ref Offset 12.8 dB; 10 dB/div
RBW 1000.0 kHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 1.832 GHz, 42.61 dBµV/m
Display Line: 54 dBµV/m; ; Limit Test Passed
30/01/2004 16:38:02



Start 2.0 GHz; Stop 4.0 GHz
Ref 70.9 dBµV/m; Ref Offset 13.9 dB; 10 dB/div
RBW 1000.0 kHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 2.747 GHz, 39.16 dBµV/m
Display Line: 54 dBµV/m; ; Limit Test Passed
30/01/2004 16:28:18



Start 4.0 GHz; Stop 5.0 GHz
Ref 60 dBµV/m; Ref Offset 2.0 dB; 10 dB/div
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 4.643 GHz, 33.9 dBµV/m
Display Line: 54 dBµV/m;
05/02/2004 16:36:49



Start 5.0 GHz; Stop 6.0 GHz
Ref 60 dBµV/m; Ref Offset 2.0 dB; 10 dB/div
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 5.677 GHz, 33.16 dBµV/m
Display Line: 54 dBµV/m;
05/02/2004 16:31:43

Note: these plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

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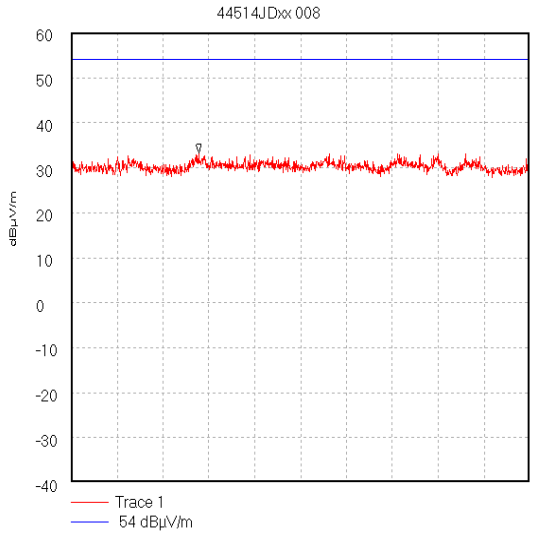
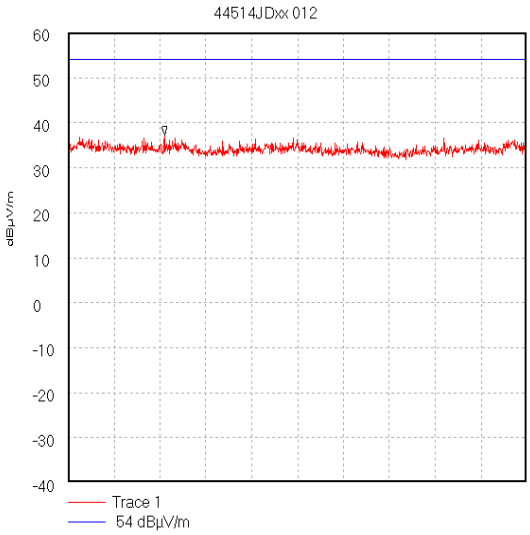
Transmitter Radiated Emissions (Continued)



Start 6.0 GHz; Stop 8.0 GHz
Ref 60 dBµV/m; Ref Offset 2.3 dB; 10 dB/div
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 6.556 GHz, 33.37 dBµV/m
Display Line: 54 dBµV/m;
05/02/2004 16:55:31



Start 8.0 GHz; Stop 9.2 GHz
Ref 60 dBµV/m; Ref Offset 2.6 dB; 10 dB/div
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 8.252 GHz, 37.18 dBµV/m
Display Line: 54 dBµV/m;
05/02/2004 17:09:57

Note: these plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

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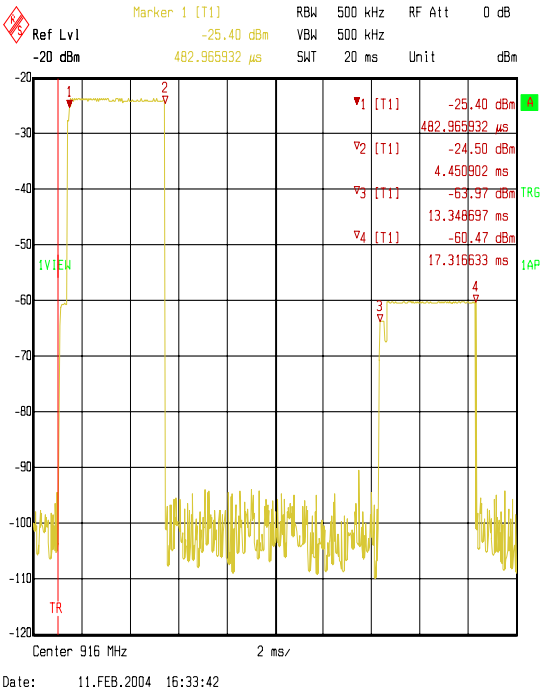
Transmitter Radiated Emissions (Continued)

Duty Cycle Plots

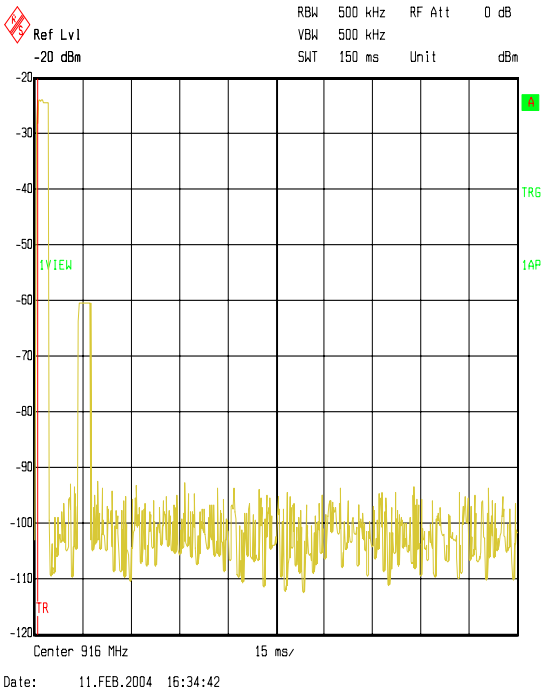
DC01

Transmit On Time



DC02

Number of transmissions in a 150 mS Period



8.5. Transmitter Radiated Emissions At Band Edges: Section 15.249(d) & 15.209

8.5.1. The EUT was configured as for transmitter radiated emissions testing described in Section 9 of this report.

8.5.2. Tests were performed to identify the maximum emissions level at the band edges of the frequency band that the EUT will operate over.

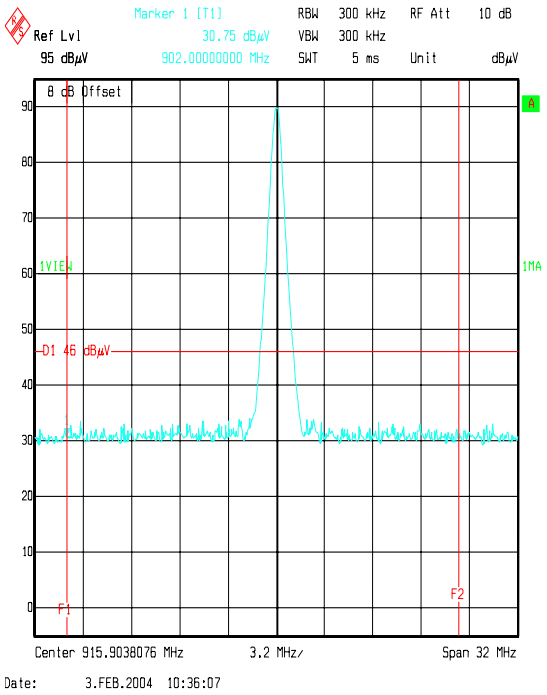
Results:

Bottom Band Edge

Frequency (MHz)	Q-P Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
902	30.8*	46.0	15.2	Complied

Top Band Edge

Frequency (MHz)	Q-P Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
928	30.1*	46.0	15.9	Complied



**Note: The results given in the above tables are peak levels taken from the above plot which is a peak max hold plot using a resolution bandwidth of 300 kHz which is greater than the specified 120 kHz for a Quasi-peak measurement i.e. a worst case measurement. Note that a plot was taken in peak max hold because it was not possible to plot the quasi-peak measurement.*

9. Measurement Methods

9.1. Radiated Emissions

Radiated emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

Initial measurements covering the entire measurement band in the form of swept scans in a shielded enclosure were performed in order to identify frequencies on which the EUT was generating interference. This determined the frequencies on which the EUT should be re-measured in full on the open area test site. In order to minimise the time taken for the swept measurements, a Peak detector was used in conjunction with the appropriate detector IF measuring bandwidth (see table below). Repetitive scans were performed to allow for emissions with low repetition rates.

The initial scans were performed using an antenna height of 1.5 m and a measurement distance of 3 m. Following the initial scans, graphs were produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. Any emission within 20 dB of the limit were then measured on the open area test site, except in cases where the noise floor was within 20 dB of the limit, in these cases the highest point of the noise floor was measured.

In either case the measurement was made at the appropriate distance using a measuring receiver with a Quasi-Peak detector for measurements below 1000 MHz and an Average detector for measurements above 1000 MHz.

For the final measurements the EUT was arranged on a non-conducting turn table on a standard test site compliant with ANSI C63.4 – 2001 Clause 5.4.

All measurements on the open area test site were performed using broadband antennas.

On the open area test site, at each frequency where a signal was to be measured, the trace was maximised by rotating a turntable through 360°. The angle at which the maximum signal was observed was locked out. For frequencies below 1000 MHz the test antenna was varied in height between 1 m and 4 m in order to further maximise the target emission.

For frequencies above 1000 MHz where a horn antenna was used, height searching was performed to locate the optimal height of the horn with respect to the EUT. At this point the horn was locked off and the turntable was again rotated through 360° to maximise the target signal. It should be noted that the received signal from the EUT would diminish very quickly after it exits the beam width of the horn antenna, for this reason it may not be necessary to fully height search with the horns.

At this point, any signals found to be between the limit and a level 6 dB below it were further maximised by changing the configuration of the EUT, e.g. re-routing cables to peripherals and moving peripherals with respect to the EUT.

Scans were performed to the upper frequency limits as stated in Section 15.33

Radiated Emissions (Continued)

The final field strength was determined as the indicated level in dBμV plus cable loss and antenna factor.

The test equipment settings for radiated emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements Below 1 GHz	Final Measurements Above 1 GHz
Detector Type:	Peak	Quasi-Peak (CISPR)	Peak / Average
Mode:	Max Hold	Not applicable	Max Hold
Bandwidth:	(120 kHz < 1 GHz) (1 MHz > 1 GHz)	120 kHz	1 MHz
Amplitude Range:	100 dB	100 dB	100 dB
Step Size:	Continuous sweep	Not applicable	Not applicable
Sweep Time:	Coupled	Not applicable	Not applicable

Duty Cycle Correction factor procedure

As the EUT employs pulsed operation the average level of emission was found by measuring the peak level of the emission and correcting it with the duty cycle correction factor, which was obtained as follows:

The EUT (in its normal operating mode) was switched on, transmitting its pulse train continuously. A spectrum analyzer was set to the transmitter carrier frequency with its Resolution Bandwidth (RBW) set wide enough to encompass all significant spectral components, an RBW of 500 kHz was used. The Video Bandwidth was set to 500 kHz. The frequency span was set to 0 Hz. The sweep time was set to a period long enough to capture the entire Transmit On Time pulse. The Transmit On Time pulsewidths were measured and a plot taken.

The sweep time was then extended to cover a period in excess of 100 ms to demonstrate whether or not the pulse train exceeded 100 ms. A sweep time of 150 ms was used. A plot of this was taken.

If the pulse train was less than 100 ms, including blanking intervals, the duty cycle was calculated by averaging the sum of the pulse widths over one complete pulse train. If the pulse train exceeded 100 ms, the duty cycle was calculated by averaging the sum of the pulsewidths over the 100 ms width with the highest average value. The duty cycle is the value of the sum of the pulse widths in one period (or 100 ms), divided by the length of the period (or 100 ms) i.e. Duty cycle = on time/100 milliseconds or period (whichever is the lesser).

To obtain the duty cycle correction factor in dB i.e. to correct the peak reading to the average value of the emission in dB the following formula was used:

Correction factor in dB = 20 x log (Duty cycle in linear terms)

9.2. Transmitter 20 dB Bandwidth

The EUT and spectrum analyser was configured as for transmitter radiated emissions measurements.

To determine the occupied bandwidth, a resolution bandwidth of 10 kHz was used, which is greater than 1% of the 20 dB bandwidth. A video bandwidth of a least the same value was used. The analyser was set for a maximum hold scan to capture the profile of the signal. The peak level was then determined and set as the 0 dB reference point. A reference line was drawn 20 dB below this 0 dB reference point. The bandwidth was determined at the points where the 20 dB reference crossed the profile of the emission.

10. Measurement Uncertainty

10.1. No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

10.2. The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.
10.3. The uncertainty of the result may need to be taken into account when interpreting the measurement results.

10.4. The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
Occupied Bandwidth	N/A	95%	+/- 0.12 %
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	+/- 5.26 dB
Radiated Spurious Emissions	1 GHz to 40 GHz	95%	+/- 1.78 dB

10.5. The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.
A027	Horn Antenna	Eaton	9188-2	301
A028	Horn Antenna	Eaton	91888-2	304
A031	2 to 4 GHz Eaton Horn Antenna	Eaton	91889-2	557
A1037	Chase Bilog Antenna	Chase EMC Ltd	CBL6112B	2413
A1255	Power supply	Farnell	11E302BT	000263
A1362	Eaton	Stoddart Aircraft Radio Co., Inc.	91889-1	N/A
A253	WG 12 Microwave Horn	Flann Microwave	12240-20	128
A427	WG 14 horn	Flann	14240-20	150
A428	WG 12 horn	Flann	12240-20	134
C178	Cable	Rosenberger	UFA210A-1-1181-70x70	None
M023	ESVP Receiver	Rohde & Schwarz	ESVP	872 991/027
M051	Multimeter	Fluke	75	52571394
M069	ESMI Spectrum Analyser / Receiver	Rohde & Schwarz	ESMI	829 808/007 (DU) / 827 063/008 (RU)
M090	Receiver / Spectrum Analyser System	Rohde & Schwarz	ESBI	DU:838494/005 RU:836833/001
M127	Spectrum Analyser	Rohde & Schwarz	FSEB 30	842 659/016
S201	Site 1	RFI	1	
S202	Site 2	RFI	2	S202-15011990

NB In accordance with UKAS requirements, all the measurement equipment is on a calibration schedule.

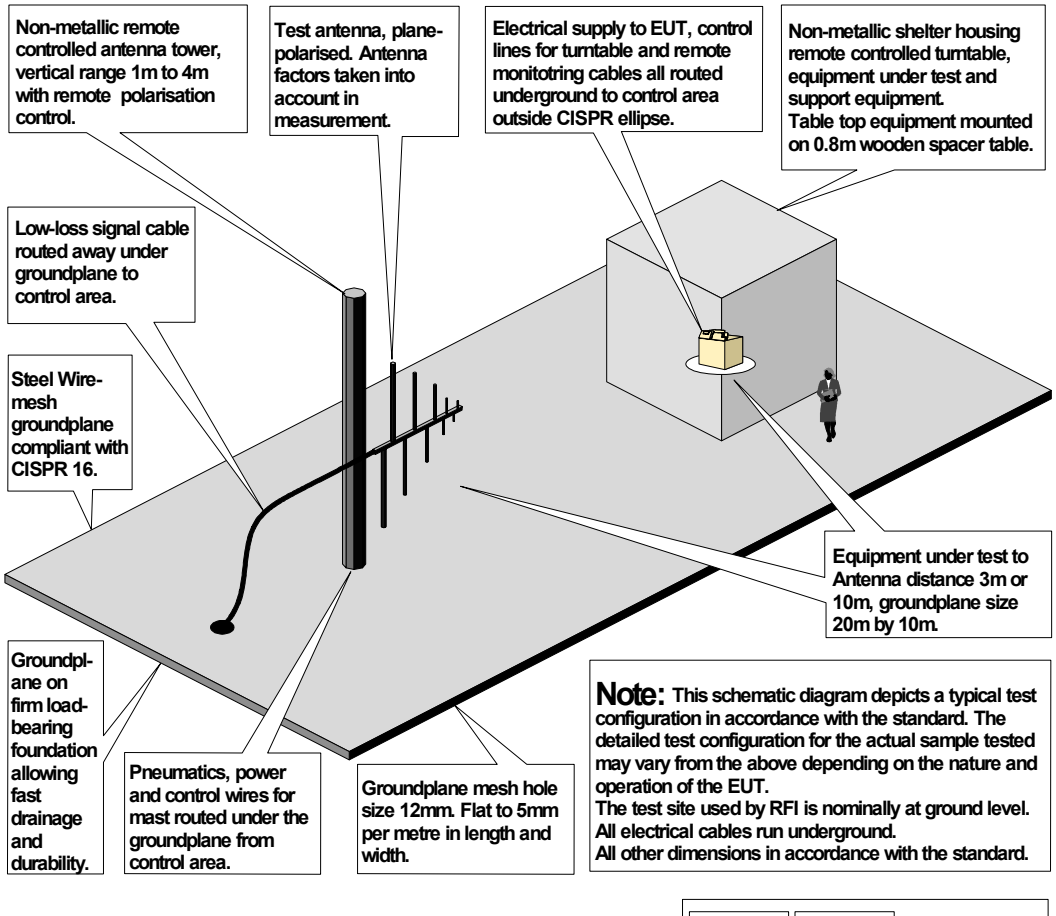
Appendix 2. Test Configuration Drawings

This appendix contains the following drawings:

Drawing Reference Number	Title
DRG\44514JD19\EMIRAD	Test configuration for measurement of radiated emissions

Test Of: **Tacktick Ltd.**
Micronet mn100 T110 Digital Display
To: **FCC Part 15.249**

DRG\44514JD19\EMIRAD



Test Configuration For Radiated Emissions Measurements
Reflection-free area: >60m by 52m (CISPR ellipse)
Groundplane Earthed
Control room outside CISPR ellipse