



EUROPEAN CONFERENCE OF POSTAL AND
TELECOMMUNICATIONS ADMINISTRATIONS

"MODEL" TEST REPORT FORM

Version 02/94

Adopted by ERC WGRR February 1994

The test report form shall form one part of the submission for type approval consideration to the National Regulatory Body

INTRODUCTION

The model test report form has been prepared as an aid to STC's and their sub groups for producing test reports for a specific (I)-ETS.

There may be a need to construct entirely new pages in a report, these new pages can often be based on one of the existing pages.

The test headings, clause numbers, table values, limit values, and units of measurement must be in agreement with the specific (I)-ETS for which the report is being developed.

The "TEST REPORT REFERENCE", "AMBIENT TEMPERATURE", "RELATIVE HUMIDITY", and "TEST EQUIPMENT USED" headings must be included on all pages for which test results are to be recorded.

For the purposes of example some values have been included in the model test report, also some units are used (for example Hz have been used for frequency). It may be more suitable in the particular application to use kHz/MHz etc.

Title page

The following text shall be stated.

The submission documentation to a National Regulatory Body for type approval purposes shall consist of two parts;

- Part one. Application Form;
- Part two. Test Report

The accreditation terms of the laboratory will prescribe the format and content of the title page.

As a minimum the title page shall include the following;

1. Name of the laboratory performing the tests
2. Test report reference number
3. The name of the manufacturer
4. The relevant ETS or I-ETS
5. Manufacturer's declared type designation
6. The type of equipment (e.g. base station, mobile station, handportable)
7. Equipment Serial Number

TEST REPORT REFERENCE.....

LIST OF MEASUREMENTS

The list of measured parameters called for in ETS/I-ETS... is given below.

Clause	Transmitter parameters	Page number
.....	Frequency error	.....
.....	Carrier power (conducted)	.....
.....	Effective radiated power	.....
.....	Frequency deviation	.....
.....	Adjacent channel power	.....
.....	Spurious emissions transmitter operating - conducted	.....
.....	- radiated	.....
.....	Spurious emissions transmitter standby - conducted	.....
.....	- radiated	.....
.....	Intermodulation attenuation	.....
.....	Transient frequency behaviour of the transmitter	.....
	 Receiver parameters	
.....	Maximum usable sensitivity (conducted)	.....
.....	Maximum usable sensitivity (field strength)	.....
.....	Amplitude characteristics of the receiver	.....
.....	Co-channel rejection	.....
.....	Adjacent channel selectivity	.....
.....	Spurious response rejection	.....
.....	Intermodulation response rejection	.....
.....	Blocking or desensitisation	.....
.....	Spurious radiations - conducted	.....
.....	- radiated	.....
	 Duplex operation	
.....	Receiver desensitisation with simultaneous transmission and reception	.....
.....	Receiver spurious response rejection	.....
.....	Signalling	.....

REPORT FORM FOR TESTING

The test laboratory shall note the following using the test

- Note 1. In the "list of measurements" clause numbers have not been included because full testing may not be required in all cases. The tests actually shall be conducted in each case.
- Note 2. The relevant reference number from the list "Test equipment and ancillaries used for tests" shall be entered under the heading "Test equipment used for each test."
- Note 3. Where clarification of a test method or an agreed test procedure is required, this shall be described on the final page of the test report titled "Additional information supplementary to the test report".

THIS PAGE DOES NOT FORM PART OF THE TEST REPORT FORM

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

TRANSMITTER FREQUENCY ERROR

CLAUSE

TEST CONDITIONS		FREQUENCY ERROR (Hz)		
		CH 1	CH 2	CH 3
T _{nom} (.....)°C	V _{nom} (.....) V			
T _{min} (.....)°C	V _{min} (.....) V			
	V _{max} (.....) V			
T _{max} (.....)°C	V _{min} (.....) V			
	V _{max} (.....) V			
Maximum freq. error (Hz)				
Measurement uncertainty (Hz)				

LIMITS CLAUSE

CHANNEL SPACING (kHz)	FREQUENCY RANGES				
	<47 MHz	>47 to 137 MHz	>137 to 300 MHz	>300 to 500 MHz	>500 to 1000 MHz
	Limit (Hz)				
12.5					
20.0					
25.0					

TEST EQUIPMENT USED

.....

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

TRANSMITTER CARRIER OUTPUT POWER(CONDUCTED) CLAUSE

Rated output power.....W/dBm

One page of results should correspond to each power level

TEST CONDITIONS		TRANSMITTER POWER (W/dBm)		
		CH 1	CH 2	CH 3
$T_{nom}(\dots\dots)^\circ C$	$V_{nom}(\dots\dots) V$			
$T_{min}(\dots\dots)^\circ C$	$V_{min}(\dots\dots) V$			
	$V_{max}(\dots\dots) V$			
$T_{max}(\dots\dots)^\circ C$	$V_{min}(\dots\dots) V$			
	$V_{max}(\dots\dots) V$			
Variation in output power under normal test conditions (W/dB)				
Variation in output power under extreme test conditions (W/dB)				
Measurement uncertainty (W/dB)				

LIMITS CLAUSE

Under normal test conditions (W/dB)	
Under extreme test conditions (W/dB)	

TEST EQUIPMENT USED:

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TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

TRANSMITTER EFFECTIVE RADIATED POWER (ERP) CLAUSE

Rated radiated power.....W/dBm

Polarisation of the measurement for the larger power level

TESTS	MEASURED POWER (W/dBm) AND VARIATION (W/dB)		
	CH 1	CH 2	CH 3
Measured radiated power (W/dBm)			
Variation (W/dB)			
Measurement uncertainty (W/dB)			

LIMITS CLAUSE

Under normal test conditions only (W/dB)	
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TEST EQUIPMENT USED:

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TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

TRANSMITTER FREQUENCY DEVIATION

CLAUSE

Power level at which the measurement has been performed W/dBm

MODULATION FREQUENCY (Hz)	MAXIMUM DEVIATION (Hz)		
	CH 1	CH 2	CH 3
Lowest frequency			
50			
100			
200			
300			
400			
500			
1000			
2000			
2550			
3000			
Measurement uncertainty (Hz)			

LIMITS CLAUSE

CHANNEL SPACING (kHz)	MAXIMUM PERMISSIBLE FREQUENCY DEVIATION
	Limit (Hz)
12.5	
20.0	
25.0	

TEST EQUIPMENT USED:

.....

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

TRANSMITTER FREQUENCY DEVIATION

CLAUSE

Power level at which the measurement has been performed W/dBm

MODULATION FREQUENCY (kHz)	*Maximum deviation (Hz) or Relative deviation (dB)		
	CH 1	CH 2	CH 3
1			
2.55			
3			
4			
5			
6			
8			
12			
12.5			
20			
25			
Measurement uncertainty* (Hz or dB)			

*Delete as appropriate

LIMITS CLAUSE

Limit* (Hz or dB)	
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TEST EQUIPMENT USED:

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TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

TRANSMITTER ADJACENT CHANNEL POWER (Speech) CLAUSE

Power level at which the measurement has been performed W/dBm

MEASUREMENT (kHz)	ADJACENT CHANNEL POWER *(dBc or μW)		
	CH 1	CH 2	CH 3
+(.....) kHz			
-(.....) kHz			
Measurement uncertainty *(dB/μW)			

*Delete as appropriate

LIMITS CLAUSE

Limit (dBc or μW)	
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TEST EQUIPMENT USED:

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TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

TRANSMITTER ADJACENT CHANNEL POWER (signalling) CLAUSE

Power level at which the measurement has been performed W/dBm

MEASUREMENT (kHz)	ADJACENT CHANNEL POWER (dBc or μW)*		
	CH 1	CH 2	CH 3
+(.....) kHz			
-(.....) kHz			
Measurement uncertainty (dB/μW*)			

*Delete as appropriate

LIMIT CLAUSE

Limit (dBc or μW)	
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TEST EQUIPMENT USED:

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TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

TRANSMITTER INTERMODULATION ATTENUATION CLAUSE

Power level at which the measurement has been performed W/dBm

Class of service.....

INTERFERING SIGNAL	ATTENUATION (dB)		
	CH 1	CH 2	CH 3
+50/100 kHz *(.....) kHz			
-50/100 kHz *(.....) kHz			
Measurement uncertainty (dB)			

*Insert in (.....) actual frequency of interfering signal.

LIMITS CLAUSE

Limits (dB)	Normal class of service	
	Special class of service	

TEST EQUIPMENT USED:

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TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

TRANSMITTER TRANSIENT FREQUENCY BEHAVIOUR CLAUSE

TRANSIENT PERIODS	FREQUENCY DIFFERENCE (Hz)		
	CH 1	CH 2	CH 3
t1			
t2			
t3			
Measurement uncertainty (Hz)			

Conform that the periods t1 and t3 the frequency difference does not exceed the value of one separation YES.....
 NO

Conform that during the period t2 the frequency difference does not exceed the value of half a channel separation YES

LIMITS CLAUSE

Transient periods	Frequency Ranges		
	>30 MHz to 300 MHz	>300 MHz to 500 MHz	>500 MHz to 1000 MHz
t1 (mS)			
t2 (mS)			
t3 (mS)			

In the case of handportable stations with a transmitter power of less than watts the frequency deviation during t1 and t3 may be greater than one channel. The corresponding plot of frequency versus time during t1 and t3 shall be recorded.

In the case of equipment where an unmodulated carrier cannot be obtained, an extra ½ channel separation will be accepted for the limit of the peak frequency difference.

TEST EQUIPMENT USED:

.....

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER MAXIMUM USABLE SENSITIVITY (CONDUCTED) CLAUSE

ANALOGUE SPEECH

TEST CONDITIONS		RECEIVER SENSITIVITY (dBµV)		
		CH 1	CH 2	CH 3
T _{nom} (...)°C	V _{nom} (....) V			
T _{min} (...)°C	V _{min} (....) V			
	V _{max} (....) V			
T _{max} (...)°C	V _{min} (....) V			
	V _{max} (....) V			
Measurement uncertainty (dB)				

LIMITS CLAUSE

Under normal test conditions (dBµV)	
Under extreme test conditions (dBµV)	

TEST EQUIPMENT USED:

.....

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER MAXIMUM USABLE SENSITIVITY (FIELD STRENGTH) CLAUSE

ANALOGUE SPEECH

Antenna polarisation (Vertical/Horizontal)

TEST CONDITIONS		RECEIVER SENSITIVITY (dBµV/m)		
		CH 1	CH 2	CH 3
T _{nom} (.....)°C	V _{nom} (.....) V			
Measurement uncertainty (dB)				

LIMITS CLAUSE

FREQUENCY BAND (MHz)	FIELD STRENGTH LIMIT (dBµV/m)
30 to 100	
>100 to 230	
>230 to 470	
>470 to 1000 or higher	

TEST EQUIPMENT USED:

.....

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER MAXIMUM USABLE SENSITIVITY (CONDUCTED). CLAUSE
(SIGNALLING)

TEST CONDITIONS		SENSITIVITY (dBµV)		
		CH 1	CH 2	CH 3
T _{nom} (.....)°C	V _{nom} (.....) V			
T _{min} (.....)°C	V _{min} (.....) V			
	V _{max} (.....) V			
T _{max} (.....)°C	V _{min} (.....) V			
	V _{max} (.....) V			
Measurement uncertainty (dB)				

LIMITS CLAUSE

Limit under normal test conditions (dBµV)	
Limit under extreme test conditions (dBµV)	

TEST EQUIPMENT USED:

.....
.....

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER MAXIMUM USABLE SENSITIVITY (FIELD STRENGTH). CLAUSE
(SIGNALLING)

Antenna polarisation (Vertical/Horizontal)

TEST CONDITIONS		Sensitivity (dBµV/m)		
VALUES		1	2	3
T _{nom} (.....)°C	V _{nom} (.....)V			
Measurement uncertainty (dB)				

LIMITS CLAUSE

FREQUENCY BAND (MHz)	FIELD STRENGTH (dBµV/m)
	Limit
30 to 100	
>100 to 230	
>230 to 470	
>470 to 1000 or higher	

TEST EQUIPMENT USED:

.....
.....

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER AMPLITUDE CHARACTERISTICS

CLAUSE

RF INPUT TO RECEIVER	AUDIO OUTPUT (dB)		
	CH 1	CH 2	CH 3
Audio reference level 6 dB μ V			
100 dB μ V			
Difference			
Measurement uncertainty (dB)			

LIMIT CLAUSE

With input varied to reference input (dB)	
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TEST EQUIPMENT USED:

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TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER CO-CHANNEL REJECTION

CLAUSE

FREQUENCY OF UNWANTED SIGNAL	REJECTION RATIO (dB)		
	CH 1	CH 2	CH 3
f_0+3000 Hz			
f_0+1500 Hz			
f_0 (nom)			
f_0-1500 Hz			
f_0-3000 Hz			
Measurement uncertainty (dB)			

$f_0 = \dots$ MHz

Rx co-channel rejection			
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LIMIT CLAUSE

CHANNEL SPACING (kHz)	Limit (dB)
12.5	
20.0	
25.0	

TEST EQUIPMENT USED:

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TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER ADJACENT CHANNEL SELECTIVITY

CLAUSE

TEST CONDITIONS		UNWANTED SIGNAL RELATIVE TO WANTED SIGNAL RATIO (dB)					
		+ CH 1 -	+ CH 2 -	+ CH 3 -			
T _{nom} (...)°C	V _{nom} (....)V						
T _{min} (...)°C	V _{min} (....)V						
	V _{max} (....)V						
T _{max} (...)°C	V _{min} (....)V						
	V _{max} (....)V						
Measurement uncertainty (dB)							

Receiver Selectivity(dB)			
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LIMITS CLAUSE

CHANNEL SPACING (kHz)	Under normal conditions Limit (dB)	Under extreme conditions Limit (dB)
12.5		
20.0		
25.0		

TEST EQUIPMENT USED:

.....

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER INTERMODULATION RESPONSE REJECTION CLAUSE

FREQUENCY INCREMENTS OF UNWANTED SIGNALS	RATIO (dB)		
	CH 1	CH 2	CH 3
+25/50 kHz			
+50/100 kHz			
-25/50 kHz			
-50/100 kHz			
Measurement uncertainty (dB)			

Rejection (dB)			
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LIMITS CLAUSE

RECEIVER INTERMODULATION RESPONSE REJECTION Limit (dB)	
BASE STATION	
MOBILE STATION	
HANDPORTABLE	

TEST EQUIPMENT USED:

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TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER DUPLEX OPERATION

CLAUSE

SENSITIVITY (dB μ V)	CH 1	CH 2	CH 3
Measurement Uncertainty (dB)			

LIMITS CLAUSES

For sensitivity (not to exceed)	dB μ V
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TEST EQUIPMENT USED:

.....

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER DUPLEX OPERATION

CLAUSE

	CH 1	CH 2	CH 3
Desensitisation			
Measurement uncertainty (dB)			

LIMITS CLAUSE

Limit (dB)	

TEST EQUIPMENT USED:

.....

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER DUPLEX OPERATION SPURIOUS RESPONSE REJECTION CLAUSE

List of spurious responses found in the limited frequency range

(..... MHz to MHz)

UNWANTED SIGNAL RELATIVE TO WANTED SIGNAL RATIO (dB)					
CHANNEL 1		CHANNEL 2		CHANNEL 3	
Frequency (MHz)	Ratio (dB)	Frequency (MHz)	Ratio (dB)	Frequency (MHz)	Ratio (dB)
Measurement uncertainty (dB)					

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LIMIT CLAUSE

Limit (dB)	
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TEST EQUIPMENT USED:

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Note. The layout of the results depend on the method of measurements used in the particular (I-) ETS. The foregoing is an example for ETS 300 086.

TEST REPORT REFERENCE.....

Ambient temperature.....°C Relative humidity.....%

RECEIVER DUPLEX OPERATION SPURIOUS RESPONSE REJECTION CLAUSE

List of spurious responses found at calculated frequencies outside the limited frequency range

UNWANTED SIGNAL RELATIVE TO WANTED SIGNAL RATIO (dB)					
CHANNEL 1		CHANNEL 2		CHANNEL 3	
Frequency (MHz)	Ratio (dB)	Frequency (MHz)	Ratio (dB)	Frequency (MHz)	Ratio (dB)
Measurement uncertainty (dB)					

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LIMIT CLAUSE

Limit (dB)	
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TEST EQUIPMENT USED:

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Note. The layout of the results depend on the method of measurements used in the particular (I-) ETS. The foregoing is an example for ETS 300 086.

TEST REPORT REFERENCE.....

TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory.

No	Instrument/Ancillary	Type	Manufacturer	Serial No.
01				
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

TEST REPORT REFERENCE.....

TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS Continued:-

No	Instrument/Ancillary	Type	Manufacturer	Serial No.
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				

TEST REPORT REFERENCE.....

Photographs of the equipment are to be provided as part of the Test Report.

As a minimum the photographs shall be of the:

1. Assembly of units or parts
2. Front of unit (Showing controls\labelling etc.)
3. Rear of unit (Showing antennae connector, labelling etc.)
4. If the label or identifying mark is affixed on a surface other than at 1. or 2. above a photograph of this shall be provided
5. The equipment (ONLY AFTER TYPE TESTING IS COMPLETED) shall be opened and photographs of the internal construction shall be made
6. The photographs shall be colour plate and of a size not less than 170mm X 120mm
7. Each photograph shall be clearly identified and mounted on a separate page