Recommendation T/R 71-02 (Malaga-Torremolinos 1975, revised at Ostend 1979, Innsbruck 1981, Cannes 1983, Montpellier 1984 and Nice 1985)

EXCHANGE OF APPROVAL TEST REPORTS FOR RADIO EQUIPMENT

Recommendation proposed by the "Radiocommunications" Working Group T/WG 3 (R)

Revised text of Recommendation adopted by the "Telecommunications" Committee:

"The European Conference of Posts and Telecommunications Administrations.

considering

- (a) that several recommendations make reference to the fact that it would be of benefit to Administrations, users and manufacturers if approval test reports could be exchanged between Administrations where the latter so desired,
- (b) that mutual acceptance by Administrations of these reports should be the ultimate aim,

recommends

that CEPT member Administrations use, for the exchange of approval test reports, the procedures described in the Annex to this Recommendation."

1. GENERAL PROVISIONS CONCERNING THE EXCHANGE OF TEST REPORTS

1.1. Test reports

Where a piece of radio equipment has been the subject of tests by the competent national authority, in accordance with the provisions of a CEPT Recommendation, and bears the name of the manufacturer and an indication of its type marked in a durable and readily identifiable way, measurement results in respect of it shall be recorded in standard report forms the patterns for which follow.

1.2. Exchange of test reports

Where a manufacturer intends subsequently to introduce equipment of the same type to another country where there is a CEPT member Administration, the authority responsible for testing in this country may accept the equipment on the basis of the foreign test report. To this end, at the request of the aforementioned authority and with the manufacturer's agreement, a copy of the test report in question shall be sent by the authority which tested the equipment.

Where a manufacturer lodges an application for type approval of a piece of equipment, Administrations may invite the manufacturer to state whether the equipment in question has already been the subject of approval tests by a CEPT member Administration.

1.3. Presentation of test reports

Test reports may be drafted in any language; however, where this is not one of the three languages used by the CEPT in its proceedings (German, English, French [arranged alphabetically in French, Trans.]), a translation into one of these languages shall be added.

2. STANDARD TEST REPORTS

- For the land mobile service: Annex I (page 5)
- -- For radiotelephony PR 27: Annex II (page 19)
- For telecommand or telemetry equipment: Annex III (page 25)
- For personal paging equipment: Annex IV (page 31)
- For wireless microphones: Annex V (page 41)
 - For radiolocation equipment: Annex VI (page 47)
- For radio transmitters and receivers in the maritime mobile service operating in very-high-frequency bands: Annex VII (page 53)
- For single-sideband radio transmitters and receivers in the maritime mobile service operating in mediumand high-frequency bands: Annex VIII (page 73)
 - For radio equipment in the land mobile service not utilising voice modulation or using a combination of voice and non-voice modulation with a mechanism enabling a specific response to be obtained in the receiver: Annex IX (page 101)

For the radio component in a cordless telephone: Annex 10 (page 111)

Annex I

Reserved for use by Administrations With test report No.)						
Equipment for the land mo	bile service					
Type designation: Manufacturer (and countr Type approval No.: Technical specifications re CEPT ref.: Recommendat	f.:					
Applicant: Address: Telephone No.:		Telex No.:				
Characteristics of the equip	pment as declared by the ap	plicant				
Type:	☐ transmitter	receiver	☐ transmitter/receiver			
Frequency range:						
Adjacent channel separati	on:	kHz				
Class of emission:						
Type of modulation:	phase	☐ frequency				
No. of switchable frequen	cies:					
Maximum width of switch	nable band:	MHz				
Utilisation						
☐ base	☐ relay	☐ mobile	□ portable			
Duplex operation		☐ yes	□ no			
with filter type:						
with 2 antennas						
Antenna	☐ coaxial socket		☐ integral			
Transmitter						
Carrier output power						
at the antenna fe		W				
effective radiated		W W				
☐ facility for reduc	ing power to.	y v				
Quartz formula: — or synthesizer						
Microphone impedanc	e:	ohms				
Consumption during t		W				

Observations:

						Report So.
Character bics as declared by the Receiva	e applicam (cont.					
Quartz formula:						
Interna chate frequencies 1st:	2nd:			Stel:		
Audio-frquencs output pow 1 Iowdspeaker:	er W		e:.rphone:		mW.	
Audio- fequency impedance □ Lo⊪dspeaker:	ohms		earphone:		ohms	
Consummion on standby:	\mathcal{N}					
Selective calling Tyes Freque now ranges used:			St. A			
Power source nains lead-acid battery on ver other	hiele	no	minal voltage: minal voltage: minal voltage:		V V V	
Test conditions						
Ambien Hemperature Extreme lemperatures Normal lest voltage Extreme lest voltages	T_{n} T_{nnn} V_{n} V_{nnn}	Č V	Humidit T _{max}	V 2000	0% C	
Composition of equipment	niin	v	V_{max}		v	
• •				~ .		
☐ single unit			several units (see Obs	ervations	()

Transmitter Report No.

Frequency error

Chann	el		
Nomin	al frequency (MHz)		
	V _n		
T_n	V_{\min}		
	V _{max}		
	V _n		
T_{\min}	V_{\min}		
	V _{max}		
	V _n		
$T_{\rm max}$	V_{min}		
	$V_{\rm max}$		
Max. fi	req. error (Hz)		
Limit			

Transmitter carrier power

Channe	el		
Nomin	al power (W)		
	V _n		
T_n	V_{\min}		
	$V_{\rm max}$		
	V _n		
$T_{\rm min}$	V_{min}		
	V_{max}		
	V_n		
Tmax	V_{min}		
	V_{max}		
Error in	n normal conditions (dB)		
Error ii	n extreme conditions (dB)		
Limits			

Remarks:

Fransmitter								Report No.
Frequency devi	ation							
Normal tes	(Frequ	iency	Level		De	viation	· Parameter control of the control o
modulation		1000	Hz		mV	1	kHz	* Parameteronamenta*
Max. frequ	encv	Frequ	iency	Level		De	viation	Limit
deviation	~		Hz		mV		kHz	
Response to	modulation frequ	uencies abov	ve 3 kHz					
Modulation	freq. (Hz)	1000	3000		60	00		
Freq. deviati	on (kHz)							
Error above	1000 Hz (dB)							
Limits						***************************************		
Power (µW)						*********		
Adjacent ch		+	kHz		kHz		Limit 	To a constant of the constant
Carrier pow	ver (dB)	7.44.44.44.44.44.44.44.44.44.44.44.44.44						
purious emissi	ons							
Carrier freq	uency:		N	1 Hz				
	Frequency (M	Hz)						
By conduction	Power (µW)							
	Limit					****		
**************************************	Frequency (M	Hz)					100 mm m m m m m m m m m m m m m m m m m	
By radiation	Power (µW)		Accept and a common at a common Accept and Accept accept a common accept					
	Limit							
□ Normal r	measurements (ex	terior)						Distance:
☐ Interior n	neasurements							
emarks:								

Transmit by					Report \	va.
Intermod Pation attenuation						
Carric (frequency)		MHZ				
Frans Witter freq. less to 8 freq. (kHz)						
Atten tation (dB)			:			
Limit	i i	Francisco		######################################		***************************************

Remarks z

Receiver									Report	No.
General Norma Metho		lation: 1 kHz □ SNE				Hz deviatior □ SND/N	ì			
Output	•	itivity formal conditi ation in extre		itions: +	dB, -	dB				
e.m.f. (c	$\mathrm{d}B/\mathrm{L}\mu\mathrm{V})$ fo	r a ratio of 20	dB						,	
Channe			THE PROPERTY OF THE PROPERTY O							
Nomina	ıl frequency	(MHz)	VALUE PALLED BALLAND BALLAND							
	V _n							And a second sec		
T _n	V_{\min}				The state of the s					
	V _{max}									
	V _n						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-		
T_{min}	V _{min}									
	V _{max}									
	V _n									
Tmux	V _{min}				A CONTRACTOR OF A CONTRACTOR O					
	V _{max}			A gyrmadinal and Machine Market (All Parket)						
Limits										
Output	characteris.	tic			1					
e.m.f. ($(dB/1 \mu V)$		6							100
Output	t power vari	ation (dB)	()							
Max. v	ariation (dl	3)								***************************************
Limits										
Co-channe	el rejection									
	ency of d signal	e.m.f. c wanted si		Frequency unwanted s	of ignal	Measured	ratio		Limi	į.
	MHz	dB/	1 μV)	ИНz		dB	-		

Remarks:

Receiver Report No. Adjacent channel selectivity Frequency of wanted signal for MHZ Ratio (dB) of the unwanted signal to the wanted signal kHz kHz. Limits j ---Frequency ∇ $V_{\rm min}$ Τ, $V_{_{\rm Bhry}}$ $V_{\scriptscriptstyle \rm J}$ $V_{\rm min}$ $T_{\rm min}$ $V_{\rm max}$ V_n $V_{\rm min}$ $T_{\rm max}$ $V_{\rm max}$ Spurious response rejection ſ == MHz Frequency of wanted signal Frequency (MHz) Ratio (dB) Limit Intermodulation response Nominal frequency of receiver $\Gamma_n =$ MHz Adjacent channel separation kHz $f_d =$ Measured ratio (dB) Limit Signal generator A Signal generator B $f_n = 2f_d$ $f_n - f_d$ $f_n + 2f_d$ $f_n + f_d$ $f_n = 4f_d$ $\Gamma_{\rm u} = 2\Gamma_{\rm d}$ $\Gamma_0 + 2\Gamma_0$ $f_{11} + 4f_{11}$ $f_a - 6f_d$ $f_n = 3f_d$ $f_a + 6f_a$ $f_a + 3f_a$ $T_a \sim 8T_d$ $f_a = 4f_A$ $f_a + 8f_a$ 1,--41,

Receiver				Report No.
Blocking or des	sensitisation			
Wanted unwanted	d signal freq. less signal freq. (MHz)	Level (dB/1 μV) output power	For S/N ratio reduction	Limit
				_
				-
Spurious emissi Nominal fre		Z.		
	Frequency (MHz)			
By conduction	Level (µW)			
	Limit			
	Frequency (MHz)			
By radiation	Level (µW)			
	Limit		t	
	measurements (exterior)			Distance: m

Remarks:

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Re	0000	NO.

Di	$g/c\gamma$	()	Jan 1	Heill

General

Transi Miter frequency:

MHZ

Receiv of frequency:

NiHz

Audio - fequency output power:

 $M_{\rm HH}$

Receiver Assensitisation

Max. unable sensitivity of receiver	dΒIμV	Limits
Desens iisation	dB	
Max. crable sensitivity in duplex operation	dΒ L μV	

Spurious response rejection

Freque rey (MHz)	
Ratio (dB)	
Limit	

Remarks:

These tests were conducted in the presence of Messrs by Messrs

Report No. Transmitter (A.II) Modulator limitation mVkHz i.e. Modulation 1000 Hz—level increased by 20 dB relative to \pm Min. deviation Max. deviation kHz kHz \pm \pm Values obtained in all conditions Limit Modulator sensitivity Frequency deviation at 1000 Hz vith a loudness Limit kHz \pm level of 94 dB Audio-frequency response Level Deviation Frequency Modulation ref. 1000 Hz \pm kHz mV2550/3000 300 500 1000 2000 Mod. freq. (Hz) Deviation (kHz) Mod. index Error/value 1000 Hz (dB) Limits Harmonic distortion Normal test conditions 300 500 1000 Frequency (Hz) Deviation (kHz) Distortion (%) Limit Extreme test conditions Modulation 1000 Hz at \pm kHz Limit 111111 $T_{\rm max}$ V_{min} $V_{\rm max}$ Residual modulation Limit Mod. 1000 Hz 4: k Hz

dB

Remarks:

Residual mod.

Receiver	(AH)	
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Report No.

Audio-free wnev response

Nominal frequency of receiver f, =

MHz

Reference output power:

mW

Error relative to characteristic						
Freque ney	(Hz)	3()()	500	1000	<u> </u>	2550-3000
at f _a	Hz (dB)					
at f_n	(dB)		3 de la constanta de la consta			
at $f_n +$	Hz (dB)					
Limits						L

Harmonic Elstortion

Nominal frequency of receiver $f_n =$

MHz

Normal test conditions

Frequency	(Hz)	300	500	1000	Limit
Deviation	(kHz)				
f, at 60 dB/1 μV distortion (%)					
f _a at 100 dB/L μV distortion					

Extreme test conditions

e.m.f. 60 dB/1 μV

Frequency		f_n —	Hz	f_n	$f_n +$	Hz
Т	$V_{\rm min}$					
* e)ten	$V_{ m max}$		HARMET RAVE FOR TALABA			
T	. V _{min}					
max	V _{max}					
Limit			THE ACCOUNTS AND			

Receiver	(A	II

Report No.

e.m.f. 100 dB/1 μV

Frequency	7	f_n —	kHz	f_n	$f_n +$	kHz
T	V_{\min}				\$2.00 miles 10 miles	
* min	V _{max}		a a a a a a a a a a a a a a a a a a a			
T	T_{max} V_{min} V_{max}					
* max						
Limit						

Naise	and	luman
WHINE	arre	THEFF

dB relative to the level of the modulation signal

Con	sum	iptio	1)

During transmission:

During reception:

Remarks:

These tests were conducted in the presence of Messrs by Messrs

Annex II

Reserved for use (With test report	by Administrations No.)		Report No.
PR 27 radiotelep	hone		
Type designation	1:		
Trademark:			
Manufacturer (a	nd country):		
Type approval N			
	al specifications ref.:		
	Recommendation T/R 20-02		
Applicant:			
Address:			
Telephone	No.:	Telex No.:	
Characteristics o	f the equipment as declared by the appli	icant	
Type: tran	smitter/receiver		
- Frequency			
No. of swi	tchable frequencies:		
	width of switchable band:	kHz	
- Type of m	odulation: ☐ 8K50F3E ☐ 8K50G3E		
- Utilisation	:		
··· Antenna	☐ coaxial socket; load impedance fo☐ integral antenna; length:	or which equipment designed: cm	ohms
- Transmitte		***	
Power:	 □ rated effetive radiated power: □ rated output power at terminals: □ facility for reducing power to: 	W W W	
with modu	inal continuous current power input (llation: W odulation: W	without auxiliary equipment)	
Synthesize	rs:		
Micropho	ne impedance: ohms		

				Report
Character istics of the equipment as de-	eclared by the ap	oplicant (cont.)		
Red civer				
Syn theizer: Tyes				
□ no: quartz f				
Intermediate frequencies: 1st 2nd				
3rd				
Auclio-frequency output power		□ loudspeaker:	W	
Aud io-frequency impedance:		☐ earphone:	W ohms	
Aug wheeldency impedance.		dspeaker: phone:	olims	
Swit chable muted reception:	□ yes			
Stara dby power input:	W			
Selective calling: yes				
no no	. 1			
Range of audio-frequencies use				
Power source:	□ integral □ external			
nains	nominal v	oltage:	V	
☐ lead-acid battery on vehicle	nominal v		V	
other	nominal v	oltage:	V	
Test conditions				
- Humidity	No. alabation * Appelling	9/6		
- Ambient temperature	T _n =	C		
Extreme temperatures	Tmm	C		
	$T_{max} =$	C		
- Normal test voltage	$V_n =$	V		
Extreme test voltages	V _{min} =	V		
	V _{max} =	V		
Composition of equipment				
- Construction:				
single unit				
several units (see Observatio	ns)			
Connection facilities:				
	ower supply			
	oudspeaker			
□ earphone □ c	charger only			
Auxiliary equipment:				

Observations:

 N_0 .

Report No.

Photographs of the equipment

Report No.

Carrier frequencies and channel numbers (Annex II, paragraphs 1.-5.)

The following channel numbers are available (delete the numbers not available): 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40
The channel numbers correspond to the recommended carrier frequencies: yes no
The physical and electrical design of the channel switching system permits operation on the authorised channels only: yes no
Type of modulation The apparatus is designed for frequency modulation only or for phase modulation only: yes no
Observations:

TRANSMITTER Report No.

Frequency error (Annex III, paragraph 4.1.)

		Frequency error (Hz)
Channel		
Nominal	frequency (MHz)	
	V _n	
T_n	V _{min} (option)	
	V _{max} (option)	
	V _n (option)	
T_{\min}	V_{min}	
	V _{max}	
	V _n (option)	
$T_{\rm max}$	V_{\min}	
	V _{max}	
Max. freq	. error (Hz)	
Limit		± 600 Hz

passag	ransmitter	carrier	power	(Annex	III,	paragrapl	n 4.2.)
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□ coaxial socket	
Nominal power:	watts

		Power (watts)
Channel		
	V _n	
To	V _{min} (option)	
	V _{max} (option)	
	V _n (option)	
Tmin	V _{min}	
	V _{max}	
	V _n (option)	
$T_{\rm max}$	Vmin	
	V _{max}	
Error in n	ormal conditions (dB)	
Error in e	xtreme conditions (dB)	
Limit		4 watts

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Spurious emission (/	Annex I	II, paragraph 4.4.)			Report No.
Channel/ Carrier frequency					
		Frequency (MHz)			
	MHz	Power (nW)			
		Limit (nW)			
		Frequency (MHz)			
	МНг	Power (nW)			
		Limit (nW)			
		Frequency (MHz)			
	MHz	Power (nW)			
		Limit (nW)			
By radiation		rmal measurements (e erior measurements	exterior); distance:	m	
Channel/ Carrier frequency					
	TYPETT FOR POOR PERSONNEL SERVICE SERV	Frequency (MHz)			
	MHz	Power (nW)	A A A A A A A A A A A A A A A A A A A		
		Limit (nW)			
		Frequency (MHz)			
	MHz	Power (nW)			
		Limit (nW)			
		Frequency (MHz)			

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MHz

Power (nW)

Limit (nW)

Report No.

By the is insmitter on standby

Freque (ey (MHz)	!	
Power (iW)		
Limit		Territoria

Remarks :

RECEIVER			Report No.
General			
Normal test mo	odulation: 1 kHz with ±	kHz deviation	
Method used	☐ SND/ND ☐ SND/N		
Maximum usab	le sensitivity (Annex III, paragra	ph 5.1.)	
Output power i	n normal conditions:		
e.m.f. (dB/1 μ	V) for a ratio of 20 dB		
Channel			
Nominal freq (MHz)	uency		
e.m.f. (dB/1 μ	V)		
Limit		6 dB/1 μV	

Remarks:

REC	EIV	重 二R
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Report No.

Adjacent Channel selectivity (Annex III. paragraph 5.2.)

Channe I	
r-10 kF 1/	
f 10 k1-fz	
Limit	l μV e.m.f.

Spurious response rejection (Annex III. paragraph 5.3.)

Frequency of wanted signal f = MHz

Frequency (MHz)		
Level (d B 1μV e.m.f.)		
Limit	$60~dB~\perp \mu V~e.m.f.$	

Intermodulation response (Annex III, paragraph 5.4.)

Nominal frequency of receiver $f_n =$

MHz

Adjacent channel separation $f_d = 10 \text{ kHz}$

Signal generator A	Signal generator B	Level measured (dB·1 μV e.m.f.) Limit
$f_n - 2f_d$	$f_n - f_d$	(0.4P) V (
$\Gamma_n + 2\Gamma_d$	$\int_{\Omega} + \int_{\Omega}$	60 dB/1 μV e.m.f.

		Report No.
Spurious emissions (An Nominal frequency:	nnex III, paragraph 5.5.) MHz	
	Frequency (MHz)	
By conduction	Level (nW)	
	Limit	
	Frequency (MHz)	
By radiation*	Level (nW)	
	Limit	

These tests were conducted in the presence of Messrs by Messrs

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Annex III

Reserved for use by A (With test report No				
Telecommand and tel	emetry equipment			
Type designation:				
Manufacturer (and c	country):			
Type approval No.:				
Technical specification	ons ref.:			
CEPT ref.:	Recommendation T/R 20-03 E	☐ Reco	ommendation T/R 20-04 E	
Applicant:				
- Address:				
- Telephone No	.:	Telex No	0.;	
Characteristics of the	e equipment as declared by the appli	cant		
Type:	☐ transmitter	☐ receiv	ver	
- Frequency ran	ge:			
— Adjacent chan	nel separation:			
— Type of modu	lation: amplitude	☐ frequ	nency or phase pulse	
- No. of switcha	ble frequencies:			
- Maximum wid	th of switchable band: M	Hz		
- Transmitter:				
Type designati	on (if different from that of comp1	ete system):	:	
Utilisation	□ base	□ mobi	ile 🔲 portable	
Antenna	□ coaxial socket; load i is des		for which transmitter ohms	
	☐ integral antenna; leng	gth:	cm	
Carrier power				
	ective radiated power:		mW	
	itput power at terminals:		mW mW	

Observations:

Telecommand/Telemetry						of the state of th	eport No.
Togal nominal comin	ious current	power inp	nut:	М.			,,,,,
Quz irtz formula; or synthesizer							
Power source mains lead-acid batter other	∷integra v on vehicle	ıl		external nominal venominal venominal ve	oltage: oltage:	V V V	
Aux iliary equipment:							
Connection facilities:							
Receiver							
Type designation (if di	fferent from	that of co	mplete	system):			
Utilisation	□ base			🗌 mobile		portable	
Antenna		socket: ar Lantenna:		ed load impeda		ohms	
Quartz formula:	1110211	amenna.	rengen.	cr	11		
Intermediate frequencie	ès :	lst:		2nd:	3rd:		
Power input on standb	у:	W					
Power source	☐ integral			□ external			
mains —				nominal vo	_	V	
☐ lead-acid battery ☐ other	on vehicle			nominal vo	_	V	
Auxiliary equipment:				nominal vo	itage:	V	
Connection facilities:							
Test conditions							
Ambient temperature		$T_n =$	C	Humic	dity =	0/0	
Extreme temperatures		$T_{min} =$	C	T_{max}	===	C	
Normal transmitter voltage		$V_n =$	V	Receiv	er V _n =	V	
Extreme transmitter voltag	es	$V_{mm} =$	V	V_{max}		V	

Telecommand/Telemetry

TRANSMITTER			
Frequency er #0r			
Nominal frequency: N	1Hz		
	V _{min}	V _n	V _{max}
T _{min}			
T_{n}			
T _{max}			
Max. freq. error (Hz)			ol.
Limit			
☐ coaxial socket ☐ : Nominal power: mW	radiated; measurement dista	nce: m	
	V_{\min}	V _n	V_{max}
T _{min}	HIRI	11	max
Tn			
T _{max}			
Limit			
Total continuous current power input (Equipment in ISM bands only)	ut		
Nominal power (W)	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA		
Measured power (W)		N	77
Limit	AAA.	2	W

Report No.

	Felemetry					Report No.
Adjacent chann	el power					
Carrier frequer	,	ИНz				
Fest modulation	n					
Method used:	Γ	receiver	□ spe	ctrum analyser	-	
Adjacent cha		+	kHz		kHz	Limit
Power (µW)	inner on	1	IX XZ			
Relative poxe	or (dR)					
Relative poxe	.r (db)			100,000 (100 to 100 to		
Spurious emissi	ions					
Carrier frequer	ney: N	MHz				
	Frequency (M	Hz)				
		· /				
By conduction	Level (nW)					
By conduction	Level (nW)	,				
By conduction	Limit					
conduction	Limit Frequency (M					
By conduction By radiation*	Limit					

Telecomn 2md/Telemetry Report No. RECEIV FR Spurious € Missions Nominal Paquency: MHz Frequency (MHz) Level (nW) conduct im $2~\mathrm{nW}$ Limit Frequency (MHz) $B \vee$ Level (nW) radiation* 2 nW Limit * Normal measurements (exterior); distance: 111 ☐ Interi or measurements Remarks:

These tests were conducted in the presence of Messes by Messes

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Annex IV

Reserved for use by Administrations (With test report No.)

Personal paging equipment Type designation: Manufacturer (and country): Type approval No.: Technical specifications ref.: CEPT ref.: ☐ Recommendation T/R 20-05 E Applicant: - Address: - Telephone No.: Telex No.: Characteristics of the equipment as declared by the applicant — Туре ☐ Call transmitter ☐ Call receiver ☐ Response transmitter ☐ Response receiver Calling system — Type designation (if different from that of complete set of equipment): - Frequency range: - Adjacent channel separation: Type of modulation

double-sideband amplitude ☐ SSB amplitude

yes; duration limited to

pulse

☐ frequency or phase

- Total capacity:

Spoken messages can be transmitted

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Personal piging				Report No.
Call transmitter				
Type & signation (if di	ferent from that of	Complete system)	<u>.</u>	
Load impedance for wh	hich transmitter is	designed:	ohms	
Power trated output po		W W		
Quart≠formula: □ or synthesizer				
Power input during tra	nsmission:	W		
Power source				
Type:	N	ominal voltage:	V	
Auxiliary equipment:				
Connection facilities:				
Call receiver				
Type designation (if dit	ferent from that o	f complete system)	;	
Antenra: □ coaxial socket; a □ i megral antenna;		cm oh	ns	
Quartz formula: Or synthesizer				
Intermediate frequencie	es: 1st:		2nd:	3rd:
Power input on standb	y: W			
Power source: Type:	□ integral Nominal voltage	☐ external : V		
Auxiliary equipment:				
Connection facilities:				
Response system				
Type designation (if di	fferent from that o	f complete set of e	quipment):	
Frequency range:				
Adjacent channel separ	ration:			
Class of emission:				
Type of modulation:	☐ double-sideba ☐ pulse	nd amplitude	frequency or pha	se
Response Possible only if calle Duration	ed to s	☐ yes ☐ unlimited ☐ coded	□ no	

Personal paging					Report No.
Response Transmitter					
Type designation (if different from t	hat of comp	lete system):			
Length of integral antenna:	cm				
Rated effective radiated power:	mW				
Quartz formula: ☐ or synthesizer					
Input power during transmission:	m'	W			
Power source:					
Type:	Nomina	l voltage:	V		
Auxiliary equipment:					
Connection facilities:					
Response receiver					
Type designation (if different from tl	hat of comp	lete system):			
Antenna: coaxial socket; anticipated imp integral antenna; length:	pedance: cm	ohn	ts		
Quartz formula: ☐ or synthesizer					
Intermediate frequencies:	1st:		2nd:	3rd:	
Power input on standby:	W				
Power source: ☐ integral Type: Nominal vo	ltage:	□ external V			
Auxiliary equipment:					
Connection facilities:					
Test conditions					
Ambient temperature	T _n =	C	Humidity	= %	
Extreme temperatures	T _{min} =	C	T _{max}	= C	
Normal call transmitter voltage	$V_{ii} =$	V	Call rec. V _n	= V	
Extreme call transmitter voltages Normal response transmitter voltage	$V_{min} = $ $S V_{n} = $	V	V _{max} Response rec. V _n	= V = V	
Extreme response transmitter voltage	**	V	V _{max}	= V	

Observations:

Personal paging				Report No.
CALL TRANSMITTER				
Frequency error				
Nominal frequency:	MH:	Z		
		V_{\min}	$V_{\rm a}$	V_{max}
T _{min}	A CONTRACTOR OF THE CONTRACTOR			
T _n				
T _{max}				
Max. freq. error (Hz)				
Limit				
Transmitter power (at the	coaxial soc	rket)		
arrier power	□ at	peak modulation		
Nominal power:	W			
		V_{\min}	V"	$V_{ m max}$
T_{\min}				
T _n				
Tmax				
Limit			5 W	

Personal pagin	€F.						Report No.	
Adjacent chim Reference floc	<mark>iel power</mark> Iulation for spe	oech						
		:	:		Topto			
, Nudio	frequency	Level	during ampl. mod. during freq. mod. double sideband SSB					
				R 20-05	gourne si	CICUAIRI	. 3.312	
1250 H Z		mV'		H. 1.1.2.				
1250 H z		mV			(4() _c	i à		
400-250) 0 Hz		mV			And the last of		Power at peak modulation	
Test mod ulatic	on for speech					manuscum for man from for foreign manufact for the second	The second secon	
Frequency:	Hz	Level:		m∨				
Test mod ulatic	on for calling							
Carrier frequer Method used:	ncy:	MHz □ receiver	☐ spec	trum amalyso	er	4		
Adjacent cha	nnel on	+	kHz		kHz		Limit	
Power (µW)								
Relative pow	er (dB)					1000		
Spurious emissi Carrier frequer		MHz						
	Frequency (MHz)						
By conduction	Level (nW)							
	Limit				250 nW			
	Frequency (MHz)						
By radiation*	Level (nW)				and the second s			
radiadon	Limit		1		250 nW	<u> </u>		
		exterior); distance:	11-4-11-4	177				
☐ Interior m	easurements							

Personal paging CALL RECEIVER						Report No.		
Spurious emiss Nominal frequ	ions							
	Frequency (MHz)							
By conduction	Level (nW)							
	Limit			2 nW		A		
	Frequency (MHz)							
By radiation*	Level (nW)							
	Limit		2 nW					
	neasurements (exterior);	distance;	m					
	neasurements							
Remarks:								

Report No. Personal paging RESPONSE TRANSMITTER Frequency er#for MHz Nominal free uercy: $V_{\rm max}$ V_{i} $V_{\rm min}$ T T_n $T_{\rm max}$ Max. freq. error (Hz) Limit Transmitter power (Effective radiated power) Nominal power: mW V_n $V_{\rm max}$ $V_{\rm min}$ $T_{\rm min}$ T_n $T_{\rm max}$

m

	Interior	measurements
Re	marks:	

☐ Normal measurements (exterior): distance:

Limit

T/R 71-02 € Page 38

• 30	Report No.			
Adjacent chann	el power			
Reference mod	lulation for speed	ch		
			•	roduce
Audio	frequency	Level	during ampl. mod. double sideband	during freq. mod.
1250 Hz		mV	60%	
1250 Hz		mV		± 3 kHz
Γest modulatio	on for speech			
Frequency:	Hz	Level:	mV	
Гest modulatic	on for coded res	oonse		
	ncy:	MHz eiver □ spectr	um analyser	
Method used:	☐ rec	eiver spectr	um analyser — kHz	Limit
Method used: Adjacent cha	☐ rec	eiver spectr		Limit
Power (µW)	□ rec	eiver spectr		Limit
Method used: Adjacent cha Power (μW) Relative pow	□ reconnel on reconnel on	eiver spectr		Limit
Method used: Adjacent cha Power (μW) Relative pow	recented in the interest of th	eiver		Limit
Method used: Adjacent cha Power (μW) Relative pow	recented in the interest of th	eiver spectr		Limit
Adjacent cha Power (µW) Relative pow Spurious emiss Carrier freque	recented in the interest of th	eiver spectrick spectric spectri		Limit
Method used: Adjacent cha Power (μW)	recentained on recent (dB)	eiver spectrick spectric spectri		Limit

Remarks:

☐ Interior measurements

Report No. Personal paging RESPONSE RECEIVER Spurious e missions Nominal Dequency: MHz Frequency (MHz) Bv Level (nW) conducti on 2 nW Limit Frequency (MHz) Вv Level (nW) radiation* 2 nW Limit * Normal measurements (exterior); distance:

These tests were conducted in the presence of Messrs by Messrs

☐ Interior measurements

Remarks:

T/R 71-02 € Page 40

Annex V

Reserved for use by Administrations (With test report No.)

Cordless microphone				
Type designation:				
Manufacturer (and country)	:			
Type approval No.:				
Technical specifications ref.				
CEPT ref.: Recommend	ation T/R 20-06 E			
1.				
Applicant: Address:				
— Telephone No.:		Telex No.:		
- Telephone No		reien 140		
Characteristics of the equipm	nent as declared by the applic	eant:		
Type:	☐ transmitter	☐ receiver	•	
— Frequency range:				
- Type of modulation:	☐ frequency or phase	amplitu 🗌	ıde	
- No. of switchable fre	quencies:			
- Maximum widt	h of switchable band:	MHz		
- Transmitter:				
Type designation	on (if different from that of	complete syste	em):	
Nominal necessary ba	andwidth:			
Utilisation	☐ base	☐ mobile		☐ portable
Antenna	coaxial socket; load is desi		which transmit ohms	ter
	Integral antenna; leng	gth:	cm	
Carrier power			4.8 1	
□ rated effective			mW mW	
☐ rated output perfection in the contract of			mW	
Quartz formula:				
Power input:				
Power source	Nominal voltage:	V	integral:	□ external

Observations:

Cordless aricrophone		Report N	0.		
Receiver					
Type designation (if diffe	erent from that of con	iplete system):			
Unit isation	Thuse	ii: moh	rile	portable	
∆m emna	[] coaxial socket: ant	icipated impedan	nce: o	hms	
	integral antenna: l	ength:	em		
Qua rtz formula or synthesizer					
Intermediate frequencies	Ist:	2nd:	3rd:		
Power input:					
Pow er source:			Nomi	nal voltage:	V
Test conditions					
Ambient temperature	ំ វា	C	Humidity =	$9/_{0}$	
Extreme temperatures	T _{mm} :	= C	$T_{\text{min}} =$	C	
Normal transmitter volta		= V	Receiver $V_n =$	V	
Extreme transmitter volta		= V	$V_{max} =$	V	

Cordless microphone				Report No.					
TRANSMITTER									
Frequency error									
Nominal frequency:	MH	MHz							
		V_{min}	V _n	V _{max}					
T _{min}									
T _n									
T _{max}									
Max. freq. error (Hz)			4						
Limit		± 10 kHz							
Transmitter power									
□ coaxial socket	radiate	ed; measurement distanc	e; m						
Nominal power:	mW								
		V_{\min}	V _n	V _{max}					
T_{\min}									
T_n									
T _{max}									
Limit									

Cordless microphone

Report No.

Necessary bandwith

Audio frequency	Level		Deviation	Band calculated	Limit
Hz	mV	±	kHz	kHz	180 kHz
Hz	mV	±	kHz	kHz	TOU KITZ

Hz mV ± kHz Spurious emissions Carrier frequency: MHz Frequency (MHz) By Power (nW)	kHz 180 kH					
Carrier frequency: MHz Frequency (MHz)						
Frequency (MHz)						
D						
By Power (nW)						
conduction Power (nw)						
	4 nW					
Frequency (MHz)						
By radiation* Level (nW)						
Limit	4 nW					

These tests were conducted in the presence of Messrs by Messrs

Annex VI

Reserved for use by Administrations

(With test report No.)

Radiolocation equipment					
Type designation:					
Manufacturer (and country)	:				
Type approval No.:					
Technical specifications ref.:					
CEPT ref.: Recommenda	tion T/R 60-01 E				
Applicant:					
Address:					
Telephone No.:		Telex No.:			
Characteristics of the equipm	ent as declared by the a	pplicant:			
Type:	☐ transmitter	_ receiver	☐ Transmitter/receiver		
Frequency range:					
- Type of modulation:	□ amplitude	frequency or phase	□ pulse		
- Utilisation:	☐ fixed	□ mobile	portable		
- Type of antenna Isotropic gain:					
 Transmitter Nominal value of tota Nominal value of peak Quartz formula: 	l bandwidth used: c envelope power (e.i.r.)	p.):			
Power input during tra	ansmission:				

Observations:

Page 48

Radiolocation						Report No.
Characteristics as declared by the applicant (cont.)					
Receiver						
Quartz formula:						
Intermediate frequencies	Ist:	2nd:	3rd:			
Power input on standby:						
Type of demodulation system:						
Power source: ☐ integral ☐ mains ☐ lead-acid battery on vehicle ☐ other		cape: nominal voltage: nominal voltage: nominal voltage:		V V V		
Test conditions						
Ambient temperature	T_n		Humidity			
Extreme temperatures	T _{min}	- C - V	Tmax	10.00	C	
Normal test voltage Extreme test voltages	V _n V _{mm}	V V	$V_{\rm max}$	400 FT 8	V	
Composition of equipment						
☐ single unit ☐ several uni	its (see	Observations)				
Connection facilities:						
Auxiliary equipment:						

Radiolocation TRANSMITI	ER						Report !	No.
Total bandwid	th used		Nominal frequency:			cy:	MHz	
Bandwidth at	10 μW (e.i.i	r.p.)						
Lower frequency			Upper frequency				nce between frequencies	these
		MHz	z MHz					MHz
Carrier freque	ncy in extre	me conditions	(MHz)					
	T _{min}			T _n			T_{max}	
V _{min}	V _n	V _{max}	V _{min}	V _n	V _{max}	V _{min}	V _n	V _{max}
Maximum ca	arrier freque	ency variation:		MHz				
Calculated to	otal bandwic	dth used:	MHz					
Limit:	MHz							
Peak envelope Nominal powe		.p.) mW						
			V_{\min}		V_{n}		$V_{\rm m}$	ax
Tmu	W-790-0-4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-		PROPOSITION OF A A A A A A A A A A A A A A A A A A		107 A011111100111A 47 A0 47 A0 48 A0 48 A0111111111111111111111111111111111111			
T_n		***************************************	***************************************					***************************************
T_{mix}								. M1-1-2
Limit					500 mW	/		

Report No.

Radiolocation				Report No.		
Spurious emissions (e.i.r.	p.)					
Carrier frequency:	MHz					
Frequency (MHz)						
Power (µW)						
Limit		10 μW				
Spurious emissions (e.i.r.	p.)					
Nominal frequency:	MHz		***			
Frequency (MHz)						
Level (µW)						
Limit		10 μW				
Remarks:	→					

These tests were conducted in the presence of Messrs by Messrs

Annex VII

Reserved for use by Administrations (With test report No.)

Radiotelephone transmitters and	receivers in the maritim	ne mobile service operatir	ng in VHF bands
Type designation:			
Manufacturer (and country):			
Type approval No.:			
Technical specifications ref.:			
CEPT ref.: Recommendation T/I	R 34-01		
Applicant:			
Address:			
Telephone No.:		Telex No.:	
Characteristics of the equipment a	s declared by the applic	ant	
Type:	☐ transmitter	☐ receiver	☐ transmitter/receiver
Frequency range:			
No. of channels:	e channels		
	Additional channels:		
Duplex operation:	yes	□ no	
Transmitter			
Carrier output power (nomina	l power):		
Microphone impedance:			
Consumption during transmis	sion:		
Receiver			
Intermediate frequencies:	1st:	2nd:	3rd:
Local oscillator injection frequencies:	1st:	2nd:	3rd:
Other systems:	yes	□ no	
Audio-frequency output powe	r: Loudspeaker: Earphone:		
Audio-frequency impedance:	Loudspeaker: Earphone:		
Selective calling:	yes	no	
Two-channel watchkeeping devic	e:	□ no	
Power source			
Mains	Nominal voltage:		
Accumulator Other	Nominal voltage: Nominal voltage:		

Character isses of the equipment as declared by the applicant (cont.)

Test condi tions

Normal temperature:	Т	***************************************	C	Liumidity	n n
Extreme temperatures	Γ.		ϵ	f. ·	ϵ
Normal 10 Svoltage	Λ.		Λ.		
Extreme (extvoltages	V_{i+3}		∇	V ====================================	7.

Compositi € n of equipment

- sing leunit	several.	units (s	ac ()bsers	CHIOHS)

Observation:

2.	GENERAL CONDITIONS							
	The test report must state whether a test has not been carried out.							
2.1.	Construction							
2.1.1.	Mechanical and electrical S construction	atisfactory:	□ yes	□ no				
2.1.2.								
2.1.3.	Marker labels S	atisfactory:	□ yes	_ no				
2.1.4.	Accessibility	atisfactory:	□ yes	□ no				
2.1.5.	Documentation S	atisfactory:	□ yes	□ no				
2.1.6.	Channel selector S	atisfactory:	□ yes	□ no				
2.1.7.	Manual reception/transmission control In simplex operation: ☐ yes ☐ no In duplex operation: ☐ yes ☐ no							
2.2.	Controls							
2.2.1.	Obligatory controls: On/off switch for the entire installation with visual indication Handset with manual non-locking carrier alternation control On/off switch for the loudspeaker Clear indication of channel 16 Means of preventing operation on channels 75 Switch for reducing the transmitter output power to no more than 1 watt Audio-frequency power volume control Squelch control Control for reducing the brightness of any equipment illumination to zero	☐ yes	no no no no no no no no					
2.2.2.	Optional control Visual indication of transmission		□ yes	□ no				
2.2.3.	Compliance with the following requirements: Access to preset controls Priority of control consoles	Satisfactory:	□ yes	□ no				
		Satisfactory:	yes	□ no				
	channels 15 and 17	Satisfactory:	□ yes	□ no				

2.3.	loudspeaker and handset			
2.3.1	Telephone handset: htegral loudspeaker: bocket for external loudspeaker:		Tyes Tyes Tyes	□ no □ no □ no
2.3.2	Uffect of switching the loudspeaker on the handset:	Satisfactory:	Tyes	□ no
2.3.3.	Receiver output cut-off during transmission in simplex operation:		□ yes	□ no
2.3.4.	Automatic loudspeaker cut-off in duplex operati	ion:	[] 7.62	□ no
2.4.	Switchover time			
	Channel selection:	Satisfactory:	[] yes	□ no
	Reception transmission:	Satisfactory:	□ yes	[] no
2.5.	Safety precautions			
2.5.1.	Protection against the effects of overcurrent or overvoltage:	Satisfactory:	☐ yes	□ no
2.5.2.	Protection against the effects of transient saltage variations and accidental reversal of polarity at the power source:	Satisfactory:	□ yes	□ no
2.5.3.	Earthing:	Satisfactory:	□ yes	□ no
2.5.4.	Protection against accidental access to voltages greater than 50 V:	Satisfactory:	□ yes	□ no
2.5.5.	Antenna terminals on open circuit or short circuit:	Satisfactory:	yes	□ no
2.6.	Class of emission and modulation characteristics			
		Satisfactory:	yes	□ no
2.7.	Number of channels			
	Number of channels in accordance with Append to the Radio Regulations:	lix 18		
	Other channels:			
2.8.	Frequency bands	Satisfactory:	yes	□ no

3.6.	Environmental tests			
	Vibration:	Satisfactory:	□ yes	□ no
	Damp-heat cycle:	Satisfactory:	□ yes	□ no
	Low-temperature cycle:	Satisfactory:	□ yes	□ no
	Corrosion test:	Satisfactory:	□ yes	□ no
3.7.	Warm-up time			
	☐ Paragraph 3.7.1.			
	☐ Paragraph 3.7.2. ☐ Paragraph 3.7.3.			
4.8.	Extended usage test	Satisfactory:	yes	□ no
Remark	s:			

5. FLANSMITTER

5.1. Filiquency error

Temp. Test voltage	Tanana	Me	Measured frequency (MHz)					
	rese venage	Channel:	Channel:	Channel:				
	V							
-r.	$V_{\rm the C}$							
	V _{mm}							
	V _n							
$T_{\rm ian}$	V_{max}		4					
	$V_{\rm rms}$							
	$V_{\rm p}$							
T_{\min}	$V_{\rm max}$							
	$V_{ m min}$							
Maximur	n frequency error	Hz.	Hz	Hz				
Limit			1500 Hz					

5.2. Transmitter carrier power

Nominal power:	W	M = Maximum power	R = Reduced power
----------------	---	-------------------	-------------------

		Measured power (W)						
-T- OPA 3	Chanr	nel:	Chani	nel:	Channel:			
Temp.	Test voltage	М	R	М	R	М	R	
	V _n							
Γ_n	V _{max}							
	V _{ma}							
V _n	V					A CONTRACTOR OF THE CONTRACTOR		
Times	V_{max}				To proper to a pro	-		
	V _{asin}					77.7		
	V _a							
Γ_{min}	V_{max}	F						
	V _{nan}						Marie 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Vlaximur	n error in norm, conds,	dB		dB		dB		
imit		M: ±1.5 dB M: 6-25 W i R: 0.1-1 W	n all test co		rmal condi	tions	***************************************	

5.3.1. Maximum permissible frequency deviation

Modulation level + 20 dB above normal test modulation level				
Modulation frequency (Hz)				
Maximum frequency deviation				
Limit	±5 kHz			

5.3.2. Reduction in frequency deviation at modulation frequencies above 3 kHz

Modulation frequency (Hz	<u>(</u>)	1000	3000	6000		
	Hz	3000				
Frequency deviation	dB	0	A CONTRACTOR OF THE PARTY OF TH			
Limits	\$			1500 Hz -6 dB		

Maximum permissible deviation at frequencies above 6 kHz: $1500 \left[\frac{6000}{f_{\text{mod}}} \right]$ 2.325 (Hz)

or
$$-6 - 46.5 \log \left[\frac{f_{\text{mod}}}{6000} \right]$$
 (dB)

See also Figure 1 (T/R 71-02).

5.4. I initation characteristics of the transmitter modulator

Temp.	Test voltage	Frequency deviation (kHz)	Limits
	V.,		
Τ,	V_{res}		
	V _{oun}		
	V_{n}		
T_{mix}	V _{max}		3.5-5 kHz
	V _{mm}		
	V _B		
$T_{_{\mathrm{Bira}}}$	$V_{\rm max}$		
	V_{min}		

5.5. Sensitivity of the modulator, including microphone

Frequency deviation at 1000 Hz with a loudness level of 1 Pa		
k	Hz 3-4.5 kHz	

5.6. Audio-frequency response of the transmitter	
Method of measurement used: ☐ Constant deviation	Constant input level
Values obtained in Figure 2 (T R 71-02).	
Remarks:	

5.7. Harmonic distortion of the emission

Temp.	Test voltage	Modulation freq. (Hz)	Distortion ratio (%)	Limít		
		300				
	V _n	500				
		1000				
		300				
T_{n}	V _{max}	500				
	V _{min}		1000			
		300				
		V_{\min}	V_{\min}	V _{min} 5	500	
		1000				
	V _n					
T _{max}	V_{max}	1000				
	V _{min}					
	V _n					
T_{\min}	V _{max}	1000				
	V_{\min}					

5.8. Adjacent channel power

Channel No.:		
Method used:	_ receiver	spectrum analyser

	Maximum power		Reduced power		
Adjacent channel on	+25 kHz	-25 kHz	+25 kHz	-25 kHz	
Power (µW)					
Carrier power (dB)					
Limits	$-70~\mathrm{d}B$ relative to the transmitter power level or $\leq 0.2~\mu\mathrm{W}$				

7 (3)	S			A. Albani		L.v.	and the section of
5.0	MHILLOHS	emissions	COMMENTOR	10 Hic.	200000000000000000000000000000000000000	133	conduction

Thannel No.:

2.5 μW			
	25 mW		

Frequency (MHz)					
Power (μW)	TO A PART OF THE P				
Limit	**************************************	2.5	μW		

5.10. Cabinet radiation and conducted spurious emissions other than those conveyed to the antenna

5.11. Residual modulation of the transmitter

Mod. freq. 1000 Hz	Deviation ±3 kHz; 0 dB
Residual modulation	dB
Limit	-40 dB

RECEIVER

General: Methods of measurement used SND/ND SND/N

Harmonic distortion and rated audio-frequency output power 6.1.

Channel No.:

Nominal frequency (f_n):

Constant modulation index of 3.

Rated output power:

ak da kan danid kan kali ke da da kan da di kan ha da da kali da da da da kali kali da da da kan da ana da ana	Test	frequency		Ĺ	f _n -1.5 kHz	$f_n + 1.5 \text{ kHz}$
Temp.	Test voltage	Input level (dBµV)	Mod. freq. (Hz)	Distortion ratio (%)	Distortion ratio (%)	Distortion ratio (%)
			300			
		60	500			
T _n	V	never more construction of the construction of	1000			
1 13	Vn	Accordance and the second	300			
		100	500			
			1000			
	V _{max}		1000			
т	V_{\min}	60	1000			
$T_{\rm max}$	V _{max}	100	1000	555 STEEL CO. 577 ST.		
	V _{min}	100	1000			
	V _{max}	60	1000			
Т	V _{mm}	OU	1000			
T_{\min}	V _{max}	100	1000			
	V_{\min}	1(1/)	1000			
		Limits			10%	

6.2. Response of the receiver

Channel No.:

Nominal frequency (f_n):

Test frequencies: f_n , $f_n = 1.5$ kHz and $f_n = 1.5$ kHz

Results in Figure 3 (T/R 71-02).

T/R	71-02	- 1
Page.	6.4	

6.3. Maximum usable sensitivity

Output power in normal conditions:

Vaximum output power variation in extreme conditions:

dB

limit: ±3 dB

Level of ite	st signal (dBμV) for a ra	atio of 20 dB		
Temp.	Test voltage	Channel No.:	Channel No.:	Channel No.:
**************************************	V _a			
Τ,,	V _{max}			
	V_{min}			
and the same pages and an arrange	$V_{\rm n}$			
T_{mec}	$V_{\rm max}$			· ·
	$V_{\rm min}$			
	V _n			
T _{mm}	V_{max}			
	$V_{\rm min}$			
	Limits	Normal test conditions Extreme test condition	s: + 6 dBμV s: +12 dBμV	

6.4. Co-channel rejection

Channel No.:

Ratio of level of unwanted signal to level of wanted signal:

dB

Limit: Between -8 dB and 0 dB

6.5. Adjacent channel selectivity

Channel No.:

Nominal frequency (f_n) :

Ratio (dB) of unwanted signal to wanted signal						
Temp.	Test voltage	f _n -25 kHz	f _n +25 kHz			
	V_n					
T_n	$V_{\rm max}$					
	V_{min}					
	V _n					
$T_{\rm max}$	V _{max}					
	V_{\min}					
	V _n					
T_{\min}	V _{max}					
	V _{min}					
Limits Normal test conditions: 70 dB Extreme test conditions: 60 dB						

6.6. Spurious response rejection

Channel No.:

Nominal frequency (f_n) :

Frequency (MHz)				
Ratio (dB)				
Limit	Manufacture and the second	70		

htermodulation response rejection

Thannel No.: Nominal frequency (f.):

Signal generator A	Signal generation B	Measured ratio (dB)
f. + 50 kHz	f 25 kHz	
f. — 50 kHz	$f_1 + 25 \text{kHz}$	
f _n = 100 kHz	f _a = 50 kHz	
f. +100 kHz	$f_a + 50 \text{ kHz}$	
f _a = 150 kHz	$f_a = 75 \text{kHz}$	
$f_n + 150 \text{ kHz}$	f, +75 kHz	
f _n 200 kHz	f _n -100 kFF2	
$f_n + 200 \text{ kHz}$	$f_n + 100 \text{ kHz}$	
L.it	mit	70 dB

Blocking or desensitisation 6.8.

Channel No.:

Nominal frequency (f_n) :

Level of wanted signal: +6 dBµV

$f_n = f_{unwid} (MHz)$	Level of unwanted signal for a reduction of $(dB\mu V)$				
	Output power	S/N ratio			
Limit	90 dB	μV			

6.9.1. Conducted spurious emissions

Channel No.: Nominal frequency:

Level (nW)			na A a a di A A Personali di Anno A A A a di A A Personali di Anno A A A a di A A A A A a di A A a di A A a di A A a a di A A a di A A a di A A a di A A a a di A A a di A A a di A A a a di A a a a di A a a di A a a a a a di A a a a a a di A a a a a a a a a a a a a a a a a a a		
Limit		2 г			

6.10. Amplitude response of receiver

Channel No.: Nominal frequency: Rated output power:

Level of input signal	+6 dBμV	+100 dBμV
Output power	-6 dB relative to the rated power	
Difference (dB)		
Limit	3 dB	

6.11. Receiver noise and hum

. dB relative to the level of the modulation signal (rated output power).

Limit: -40 dB

6.12. Receiver mute or squelch facility

Thannel No.:

	t level (µV)	Position of squelch facility	Ratio (dB) of output power to rated power	Limits
**************************************	+ 30	off		
(:1)	îlo	Oll		- 40 dB
-	+6	flo	3	
(h)		on	-3 and S N = 20 dB	÷6 dBμV
		Continuously adjustable squelch facility set to maximum	}	+40 dBμV

7. **DUPLEX OPERATION**

7.1. Receiver desensitisation with simultaneous transmission and reception

	Maximum usable		
Channel No.:	Without simultaneous transmission	With simultaneous transmission	Différence (dB)
		,	
Limits	+6 dBμV	+6 dBμV	3 dB

7.2. Receiver spurious response rejection

Channel No.:

Frequency (MHz)					
Ratio (dB)					
Limit		, 0	dB	American in the second of the	

Figure 1 (TR 71-02)

5.3.2 Radiation in trequency deviation at modulation trequencies echove 3 kHz

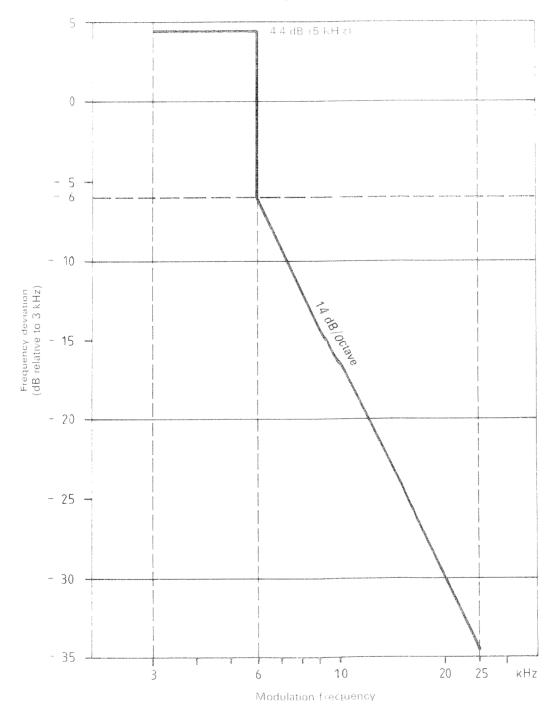
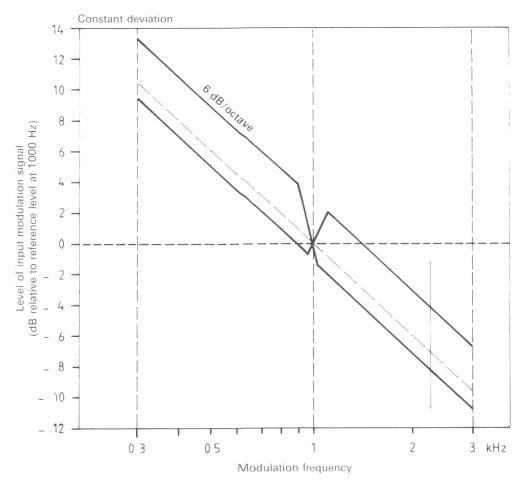
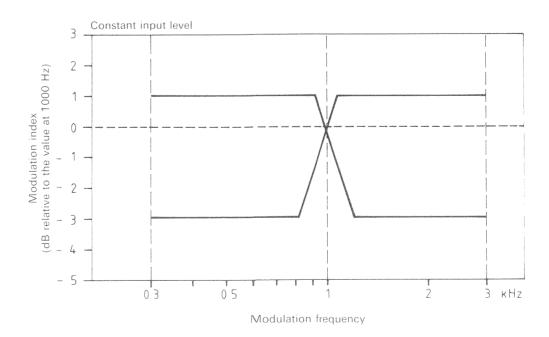


Figure 2 (T/R 71-02)

5.6. Audio-frequency response of the transmitter

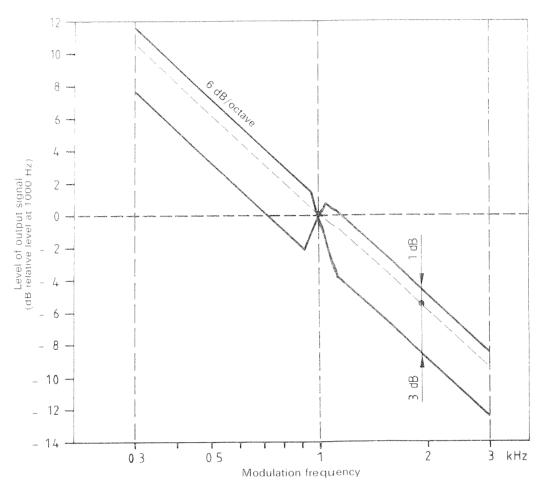




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Figure 3 (TR 71-02)

6.2. Response of the receiver



Annex VIII

Reserved	for use	by A	Administrations
(With tes	st repor	t No	.)

Specifications for sin medium- and high-fre	gle-sideband radioteleph equency bands	one transmitt	ers and receivers in the	e maritime mobile service operating in
Type designation:				
Manufacturer (and	country):			
Type approval No.:				
Technical specificati	ons ref.:			
CEPT ref.: Recomn	nendation T/R 34-01, A	annex I		
Applicant:				
Address:				
Telephone No.:		Tele	ex No.:	
Characteristics of th	e equipment as declared	by the applic	cant	
Type:	☐ transmitter		receiver	transmitter/receiver
TRANSMITTER				
Rated output power	•••			
Microphone impeda	ince:			
Consumption during	g transmission:			
RECEIVER				
Intermediate freque	ncies:			
Audio output powe Loudspeaker imped				
Earphone impedance	re:			
TEST CONDITION	NS			
Normal temperature	$T_n =$	C	Humidity =	0/0
Extreme temperatur	res $T_{min} =$	C	T _{max} =	C
Normal test voltage	$V_n =$	V		
Extreme test voltage	$v_{min} = v_{min}$	V	$V_{\rm max} =$	V
Direct voltage	Alternating vol	ltage 🗌		
Conclusion of type Observations:	approval tests: Approv	ved □ yes	no no	

GENERAL CONDITIONS

Construction			
Mechanical and electrical construction	Satisfactory	Tyes	mo-
Marking with labels	Satisfactory	ves	<u> </u>
Accessibility	Satisfactory	□ yes	□ no
Documentation	Satisfactory	Elyes	□ no
Duplex operation	Satisfactory	□yes	□ no
Brightness reduction	Satisfactory	□ yes	□ no
Remarks:			
Controls (General)			
Frequency-changing	Satisfactory	☐ yes	□ no
Loudspeaker cut-off	Satisfactory	☐ yes	□ no
Switch for device to reduce the effects of impulsive noise		□ yes	□ no
Selection of transmission and reception frequencies independently	Satisfactory	□ yes	□ no
Selection of frequency 2182 kHz	Satisfactory	☐ yes	□ no
Reception transmission switchover	Satisfactory	□ yes	□ no
Remarks:			

rvoltage	Satisfactory	□ yes	□ no
Protection against the effects of transient voltage variations and accidental reversal of polarity at the power source			□ no
	Satisfactory	□ yes	□ no
ater than 50 V	Satisfactory	□ yes	□ no
	Satisfactory	☐ yes	□ no
		□ yes	_ no
dB			
		□ yes	□ no
dB			
		□ yes	□ no
dB			
	ater than 50 V	Satisfactory Satisfactory Satisfactory Satisfactory Satisfactory Mater than 50 V Satisfactory Satisfactory Satisfactory	Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes Grant description of the satisfactory yes Satisfactory yes

Other classes of emission:

Page 76			
Receiver:			
J3F:		708	1317
H3E:		705	
ASE:		161	≣ ао
R3E:		168	III no
Other cla≈xs of emission:			
Designation by carrier frequency		Tyes	□ no
Marking	Satisfactory	yes	□ no
Remarks:			
Frequency bunds			
Medium-frequency bands			
Transmitter:			
Receiver:			
High-frequency bands			
Transmitter:			
Receiver:			
Changing the class of emission	Satisfactory	☐ yes	□ no
Remarks:			

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Satisfactory	□ yes	□ no
Satisfactory	□ yes	□ no
Satisfactory	yes	□ no
Satisfactory	☐ yes	□ no
Satisfactory	□ yes	no no
Satisfactory	□ yes	_ no
Satisfactory	□ yes	□ no
	□ yes	□ no
Satisfactory	□ yes	□ no
Satisfactory	□ yes	□ no
	Satisfactory Satisfactory Satisfactory Satisfactory Satisfactory Satisfactory Satisfactory	Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes Satisfactory yes

T		R	7	1	-02	Е
P	3	Q/R		7	8	

TRANSSITTER

General			
Class of Emission on distress frequency 2182 kHz			
H3E selected automatically		100	Ther
H3E can be suppressed after automatic selection			no
Remarks:			
Radiotelephone alarm signal generator			
The alarma generator is an integral part of the transmitter:		□ yes	□ no
Tone frequencies:	Hz		
	Hz		
Limits: 1280-1320 Hz			
2167-2233 Hz			
Duration of tones (1300):	ms		
(2200):	ms		
Limits: 240-260 ms			

Interval between tw	o successive tones:	ms		
Limit: $< = 4 \text{ ms}$				
Modulation factor	(1300):	0/6		
	(2200):	θ/ ₀		
Limit: > = 70%				
	de of the stronger signal, modulated by the weaker signal modulated by the oth			
Duration of alarm s Limits: 30-60 s	ignal:	S		
Transmission of the	alarm signal can be interrupted		ges	□ no
The alarm signal cartelephone frequency	n be transmitted on any available radio-	-	☐ yes	□ no
Arrangements to presignal	event accidental transmission of the alar	rm	☐ yes	□ no
Provision for connect	cting an external alarm generator		□ yes	□ no
	the connection point: 70% modulation of the transmitter:	ohms V		
Remarks:				

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Page 80		
Number of operating frequencies		
1605-400 ° kHz:		
4 MHz band:		
8 MHz band:		
12 MHz band:		
16 MHz band:		
22 MHz band:		
Transmit ters controlled by frequency synthesizers		
Capable of being programmed	□ yes	□ no
Remarks:		

Frequency precision and stability

Nominal frequency	Test	Frequency error (Hz)					
of carrier kHz	voltage	T _n	0° C	40" C			

00000		and distributions					
PERIODIA ALAA AA							
		MINE OF THE CONTRACTOR OF THE					
			Water Control of the				
PARAMETER STATE OF THE STATE OF							
į							
		TOTAL PROPERTY CONTRACTOR AND					
		OCCUPATION AND ADDRESS OF THE PROPERTY OF THE					
TF.							
Limit			40 Hz				

Spurious frequency modulation	
<	Hz
Remarks:	

Output force.

1605-40 CB KHZ

Norma al frequency	Fest	Class		Pep W hii		ermodulai level dB	icat)	
UIZ	voltage	of emission	T.	() (40 (ľ	0 (40 (
			!					
				* 10 mm				
			- Total State of the State of t	7				man
					A THE COURT OF THE			
				To a market of the		Annual Control of the		
				-				To the second se
								APPEARANCE AND APPEAR
							And the state of t	
					The state of the s	n onto constitue		
-	Limits			60-400 W	7		25 dB	

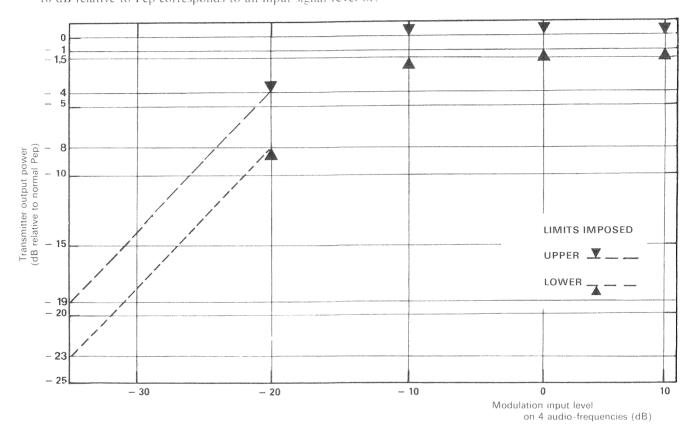
4-28 MHz

Nomin al frequency of carrier	Test	Class of emission		Pep, W		Int	ermodulat level dB	ion
kHz	voltage	or emission	Τ,	0 C	40 C	Т,	0 C	.` 40 C
		manufacture (1900)						
		OUR TO A STATE OF THE STATE OF						
					Ì	a constitution of the cons		9000
								1
			7		2			
A P. C. V. M. C.								
8					-			Vices and the second se
								man man and a final state of the state of th
AN IN THE STATE OF			1					
				manuscriptor of the first				
		<u> </u>		1	<u> </u>			
	Limits			60-1500 \	N		25 dB	

VAICE-	activate.	d $m\alpha c$	1111	attor

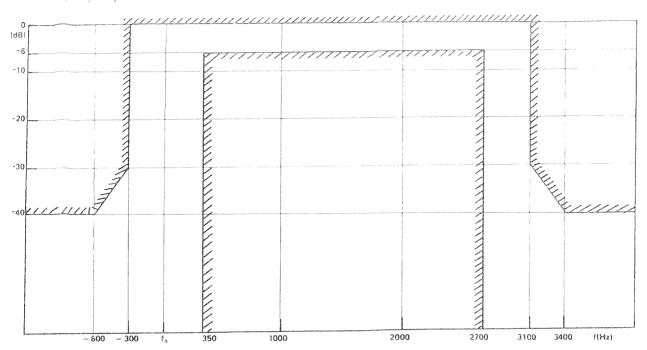
Automatic level control, limiter or combined level control/limiter

Carrier frequency:	kHz
Value corresponding to 0 dB relative to Pep:	W
-10 dB relative to Pep corresponds to an input signal level of:	V



Limitation characteristic, compression characteristic or the two effects combined.

Audio-fr<4mency response



Spurious emission power

Modulation frequencies: $f_1 =$

Hz

 $f_2 =$

Hz

Nominal frequency of carrier	Class of emission		in the fo	n (dB) below Following frequency	ency bands re	lative to	
kHz		< -6.1	-3.16.1	-0.13.1	+2.9 - +5.9	+5.9 - +8.9	> +8.9
Limits	dB	43	38	31	31	38	43

Noise and hum power

Nominal frequency	Class	Noise and hum power (dB relative to normal Pep)			
of the carrier	of emission	Audio-frequency open circuit	y input terminals 		
:					
3111					
THE STATE OF					
Limit		40	dB		

 .,	 	opera	

Continuous operation		
Satisfactory operation for 15 minutes	□ yes	□ no
Remarks;		

Transmitter protection		
Antenna terminals on open circuit or short circuit		
Satisfactory operation for 5 minutes:		
On open circuit	□ yes	□ no
On short circuit	□ yes	□ no
Command and control equipment		
Reduction of output power		
Facility for reducing power to no more than 60 watts	□ yes	□ no
Combined transmitters exceeding 400 W:		
Automatic limitation to 400 watts on medium frequencies:	☐ yes	□ no
Tuning control		
Satisfactory	☐ yes	□ no
Remarks:		

Measuren zon of current in the antenna

Antenna Corrent measuring device

Transmiss for an 2182 kHz

Fine-tuning (manual)

Power obt aned with fine tuning

Max:

W

Min:

W

Defective exmonatic tuning system

Manual turing possible on 2182 kHz

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RECEIVER

Tuning systems for medium-free	quency receivers		
☐ Receivers controlled by free	quency synthesi:	zers	
Frequency step	Hz		
Satisfactory tuning		□ yes	□ no
☐ Continuous tuning			
☐ Reception on pre-set freque	encies		
Number of frequencies:			
Tuning systems for high-freque	ncy receivers		
☐ Receivers controlled by free	quency synthesi	zers	
Frequency step	Hz		
Satisfactory tuning		□ yes	□ no
☐ Continuous tuning			
☐ Reception on pre-set freque	encies		
Number of frequencies:			
4 MHz band:			
8 MHz band:			
12 MHz band:			
16 MHz band:			
22 MHz band:			
Remarks:			

T/R 71-02 € Page 90
Receiver or Eput Harmonic distortion at output power of 500 mW: Limit: 10**
Remarks:

Tuning erroy/drift

Tuning error

Tuning frequency	Test	Tuning error				
indicate dkHz	voltage	T _i	0 C	+40 C		
			777			
		,				
			WE AND CONTROL AND			
Limits: 50 Hz for step-by-step and pre-set tun						
LIMITS.	150 Hz for continuous tuning					

Tuning drift

Tuning frequency	Test	Tuning dritt over 15 min. Hz			
indicated kHz	voltage	T _n	0.€	+40° C	

			and the state of t		
	a de deservación de la constante de la constan				
	A.A. III A.A		A-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		
Limit: 20 Hz					

Remarks:

Frequency modulation due to vibration

Hz

Limit: 20 Hz

Clarifier

Control range:

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Intermedi #h-frequency and audio-frequency passbands

JBE RBE:

Hz 10

Hz

A3E H3E:

Hz to

H2

Limites: 3 % Hz to 2700 Hz

Maximum Bable sensitivity

Frequen cy kHz	Class of emission	Maximum usable sensitivity dBμV
37		

Limits:

1605-4000 kHz: J3E/R3E: $+16 \text{ dB}\mu\text{V}$

A3E/H3E: $\pm 30 \text{ dB}\mu\text{V}$

4-28 MHz:

 $J3E_1R3E_2 + H_1 dB\mu V$

Adjacent channel signal-selectivity

 f_0 = carrier frequency of the wanted signal

f = frequency of the unwanted signal

	Selectivity dB									
f _o	J3E/R3E					A3E/H3E				
kHz			$f-f_0$	kHz				$f - f_0$	kHz	
	5	-2	1	+4	+5	+8	20	-10	+10	+ 20
MAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA										
Limits	60	50	40	40	50	60	50	40	40	40

Two-signal selectivity tests (blocking and cross-modulation

Blocking

Wanted sign	nal	Class	Blocking level dBμV		
Frequency kHz	Level dBµV	of emission	-20 kHz	+20 kHz	
				2 × A DIO 000000	
T. C.					
			American		
	or wanted sig	nal at MUS nal at 60 dBμV		77	

Cross-mc>dilation

Wantee Frankl	Class	Cross-modulation level dBµV				
Frequer (kHz	of emission	20 KHz	- 20 kHz			
		A COLOR DESCRIPTION OF THE PROPERTY OF THE PRO				
		No. of the latest and				
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
			RESERVED AND AND AND AND AND AND AND AND AND AN			
		710	7.00			
Limit: 9O dBμV						

Intermodul ation

Tuning frequency kHz	Class of emission	Frequency of unwanted signal		Intermodulation	In termodulation level	
requeriey Kii/	of chirston	f _i kHz	f ₂ kHz	product	dBµV	
THE PROPERTY OF THE PROPERTY O						
30000						
				Try Try Change		
77,000000000000000000000000000000000000						
				Villa de la companya della companya		
7						
Limit: 80 dBμV						

Spurious response selectivity

Intermediate frequency/frequencies:

Tuning frequency kHz	Class of emission	Image frequency kHz	Protection ratio dB
TO THE THE TAXABLE AND THE TAX			
T T T T T T T T T T T T T T T T T T T			
7			
Limit: 70 dB			

Harmoni Coutput level

funk by frequetty kHZ	level	Output power mW	Harmonic factor
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Limits:	-5% at normal or 10% at nominal c	tput power output power	

Audio-frequency intermodulation

Tuning frequency kHz	Intermodulation level dB
Limit: 25dB	

Spurious emission

Tuning frequency kHz	Spurious frequency kHz	Level nW
MARKANINA AND AND AND AND AND AND AND AND AND A		
Limit: 1 nW		

Spurious signals originating internally		
Satisfactory	□ yes	no no
Frequencies:		
Remarks:		
Kemarks.		
Gain control		
Manual audio-frequency gain control	□ yes	_ no
Manual RF/IF gain control	□ yes	□ no
Automatic gain control	□ yes	□ no
AGC can be switched off	□ yes	□ no

Manual RF IF gain control

Fun ing frequency klif /	Class of emission	SND N or SND ND after 20 dB increase
Limit: 35dB		

Automatic gain control

Tuning frequency kHz	Input level dB μV	Class of emission	SND N or SND ND after 20 dB increase
Limit: 35 dB			

70 dB increase in input level

Tuning frequency kHz	Input level dBµV	Class of emission	Increase in output level
Limit: 10 dB			

Limit: 10 dB		
Time constant of the AGC ()	forward and reverse action times)	
Action time:	ms	
Limits: < = 10 ms		
Return time:	ms	
Limits: 1-4 s		
Protection of input circuits		
Satisfactory		
Protection against electrosta	utic voltura	
Satisfactory	ttic voitage	
Satisfactory		
Remarks:		

Annex IX

Reserved for use by Administrations (With test report No.)

		sing voice modulation or using a to be triggered in the receiver	combinatio	on of voice and non-voice modulation
Type of equipment				
Manufacturer (and	country):			
Type approval No.	:			
Technical specificat	ions ref.:			
CEPT ref.: Recomi	mendation T/R 24-01	, Annex V		
Applicant:				
Address:				
Telephone No.:		Telex N	0.:	
Characteristics of th	he equipment as decla	red by the applicant		
Type:	☐ transmitter	□ receiver		transmitter/receiver
Frequency range:				
Adjacent channel se	eparation:	kHz		
No. of switchable f	requencies:			
Maximum width of ☐ without voice m ☐ with combination		MHz voice modulation		
Type of modulation	n:			
Coding system:				
Frequencies or cod	es used:			
·				
Utilisation: ☐ base	☐ relay	□ mobile		□ portable
Duplex operation		☐ yes		По
☐ with filter type: ☐ with 2 antennas				
Antenna	□ coaxial s	ocket		☐ integral
Power source				
□ mains		nominal voltage:	V	
☐ lead-acid battery	y on vehicle	nominal voltage:	V	
other		nominal voltage:	V	

Observations:

Land mot Te						Report No.
Transmitt						
Carrier p≪ ver						
Trated comput power at	terminals:				11.	
Trated effective radiated	power:				11.	
facility for reducing po	wer to:				M.	
Quartz sy mhesizer formul	41					
Consumption during trans	smission:					
Receiver						
Quartz sy ilhesizer formul	a:					
Intermediate frequencies	lst:	2nd:	3rd:			
Call indicator system:		□ loudspeaker □ screen			□ lamps □ other	
Consumpt ion on standby:		W			Vector	
Test conditions						
Ambient temperature	T, =	ϵ	Humidity		0/0	
Extreme temperatures	T _{min} ==	C	$T_{\rm max}$		C	
Normal test voltage	V , ==	V				
Extreme test voltages	V_{mag}	V	$V_{\rm max}$	***************************************	V	
Composition of equipment						
single unit	□ severa	al units (see Obser	vations)			

Land mobile Report No.

TRANSMITTER

Frequency error

Method of measurement (or calculation):

Channel			
Nominal f	requency (MHz)		
Vn			
T_n	V _{min}		
	V _{max}		
T_{min}	V _n		
	V_{\min}		
	V_{max}		
	V _n		
$T_{\rm max}$	V_{\min}		
	V_{max}		
Max. freq.	error (Hz)		
Limit		İ.,,,,	

Transmitter carrier power

Channel			
Nominal p	power (W)		
	V _n		
T _n	V _{min}		
	V _{max}		
	V _n	4	
T_{\min}	V_{\min}		
	V_{max}		
	V _n		
$T_{\rm max}$	V_{\min}		
	$V_{ m max}$		710006
Error in no	ormal conditions (dB)		VVV 3 = 1011 = 1011 = 1011 = 1011 = 1011 = 1011 = 1011 = 1011 = 1011 = 1011 = 1011 = 1011 = 1011 = 1011 = 1011
Error in ex	treme conditions (dB)		
Limit			

Land mobile					Report No.
TRANSMITTER					
Adjacent channel power					
Normal coded test signa	1				
			0.000		
Carrier frequency:	MHz		A PACTO PARTY.		
Method used:	receiver s	pectrum	analyser		
Adjacent channel on	+	kHz		kHz	Limit
Power (µW)					
Carrier power (dB)					
Spurious emissions Carrier frequency:	MHz				
By conduction					
	Frequency (MHz)				
Transmitter in operation	Power (µW)				
	Limit				
	Frequency (MHz)	AAA maana ka ka maana ka maana ka maana ka			
Transmitter on standby	Power (μW)				
	Limit	and the state of t			

Land mol>ik						Repor	t No.
TRANSVITTER							
Spurious & Missions by rad	liation						
	Frequency (MHz)						
Transmitter in operation	Power (µW)			W			
	Limit				<u> </u>		1
	Frequency (MHz)						~~~
Transmit to on stand by	Power (µW)			90211000			
	Limit						
Normal measurements Interior measurements Remarks: Intermodulation attenuation		n	1				
Carrier frequency:	MHz						
Transmitter freq. less test freq. (kHz)							
Attenuation (dB)							
Limit		I					

Remarks:

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Land mobile	Report No
4 .28 EEE	_

RECEIVER

Reference sensitivity for signal reception

e.m.f. (dB/	1μV) for an 80% c	all success rate	and the second s
Channel			
Nominal fi	req. (MHz)		
T _n	V _n		
	V_{\min}		
	V _{max}		
	V _n		
T_{\min}	V_{\min}		
	V_{max}		
	V _n		
T_{max}	V_{\min}		
	V _{max}		
Maximum	value		
Limits			

Co-channel rejection

Frequency of wanted signal	e.m.f. of wanted signal	Frequency of unwanted signal	Measured ratio	Limit
MHz	dB/IµV	MHz	- dB	

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Page	108	

Land moly h

Report No.

RECEIVER

Adjacent Clannel selectivity

Frequency of wanted signal f =

MHz

Level of	nwanted signal (d	B 1μV e.m.f.)				
Frequenc	1	ſ	\II/	1	kHz	Limits (dB lµV c.m.f.)
Т,	V _n					
	V _{min}					The second secon
	V _{max}					
	V					
T_{nm}	V _{min}					
	V _{max}					
$T_{\rm max}$	V _n	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
	V _{BiBi}					
	V _{max}				100	

Spurious response rejection

Frequency of wanted signal f =

MHz

Frequency (MHz)	
Protection (dB/IµV e.m.f.)	
Limit (dB/lμV e.m.f.)	

Intermodulation response

Nominal frequency of receiver $f_n =$

MHz

Adjacent channel separation $\int_{a}^{b} =$

kHz

Signal generator A	Signal generator B	Protection (dB 1µV e.m.f.)	Limit (dB-1µV-e.m.f.)
$f_n \cdot 2f_d$	f_n : f_d		
$f_n + 2f_d$	$f_n + f_d$		
f _a · 4f _d	$f_n \cdot 2f_d$		
$f_n + 4f_0$	fari 2fa		
F _a 6f _a	$f_a/3f_d$		
$f_n + 6f_n$	$f_s + 3f_1$		
$f_a - 8f_d$	f ₃₁ - 4 f ₃₁		
$f_n + 8f_d$	$f_a \pm 4f_d$		

and mobile	Re	eport No.				
ECEIVER						
locking						
Wanted signal freq. less unwanted signal freq. (MHz)		Level (d	B/1μV e.m.f.)		Limit (dB/1μV e.m	n.f.)
						.,,
						and all had had a through a 1930 of A. P. Y
AMELINANANANANANANANANANANANANANANANANANANA					AAA-99-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-	
						20 A 2011 27 A 2011 2
purious emissions						
Iominal frequency:	MHz					
Abbushing	Frequency (M	MHz)				
By conduction	Power (µW)					
SERVICE SERVIC	Limit			ahandah seringgan pengapan pe		
	Frequency (N	MHz)				
By radiation*	Power (µW)					
	Limit					
☐ Normal measu	rements (exterior); di	istance:	m			
☐ Interior measu	rements					
Aultipath signal rece	ption sensitivity (as in	Appendix B/	V)		V	
Speed (km/h)		(dB/IμV) for access rate	an 80%		Limit (dB/1µV e.n	n.f.)
90						
50						
10						
Remarks:						
These tests were cond						
in the presence of M	essrs					

by Messrs

Annex X

Reserved for use by Administrations (With test report No.)

Radio component of a cordless telephone Type designation: Manufacturer (and country): Type approval No.: Technical specifications ref.: CEPT reference: Recommendation T/R 24-03 Applicant: Address: Telephone No.: Telex No.: General technical specifications as declared by the applicant Utilisation: only for incoming calls for incoming and outgoing calls Single-channel or multi-channel equipment: ☐ single-channel frequency used: MHz and MHz multi-channel No. of channels: MHz frequency band used: and MHzModulation: Voice ☐ frequency (F3E) phase (G3E) Data: ☐ frequency-shift keying (FSK) (other)

Compre-or expander: syllabol: compressor Togula fed speech ampifier Channel *eparation: 25 kHz Radio-frequency capture threshold: $dB\mu V$ Minimum nobservation time: msec Identification procedure No. of colle combinations: Interval at which the identification code is repeated: 500 Channel occupation time limit: min Interrupt ion of a connection due to low field strength; the average field strength level is: $dB\mu V$ Maximum duration of the radio link if the identification code is not received: sec Frequency synthesis: Transmitter:

synthesizer (other) Receiver: synthesizer (other) Intermediate frequencies: MHz MHz kHz Base unit transmitter Modulator impedance: ohms Base unit receiver Audio-frequency output impedance: ohms

W

W

TR71-02E

Total power consumption of the base unit:

Power consumption of the handset:

Observations by the Administration concerning the technical specifications

Test conditions:

Normal temperature $T_n = +15 \text{ to } +35^{\circ}\text{C}$ Extreme temperatures $T_{min} = 0^{\circ}\text{C}$; $T_{max} = 55^{\circ}\text{C}$

(Relative) humidity from 20% to 75%

Extreme power supply values

Base unit		Handset	
☐ Mains voltage V nominal voltage: V _{min} (-15%) = V _{max} (+10%) =	V V V		
☐ Lead-acid battery nominal voltage: $V_n = V_{min} = 0.9 \times V_n$	V	$ □ Lead-acid battery nominal voltage: V_n = V_{min} = 0.9 \times V_n$	V
☐ Leclanché-type battery nominal voltage: $V_n = V_{min} = 0.85 \times V_n$	V	$ ☐ Leclanché-type battery nominal voltage: V_n = V_{min} = 0.85 \times V_n $	V
	V		V
Other types of battery nominal voltage: $V_n = V_{min} =$	V V	\square Other types of battery nominal voltage: $V_n = V_{min} =$	V

BASE UNIT TRANSMITTER

Frequency error

Nominal frequency Channel No.	(MHz)/	/	/	/
	V _{min}			
$T_n = C$	V _n			
	$V_{\rm max}$			
T_{min}	V _{min}			
	V _n			
	V _{max}			
T_{max}	V_{\min}			
	V _n			
	$V_{ m max}$			
Max. freq. error (H				
Limit		≤ ± 2.5 kHz		

Carrier power

Nominal power (stated by manufacturer)		mW
Channel No.		
T _{II}	C V _n	
Nominal pov	wer error (dB)	
Admissible e	rror	± 1.5 dB
T	C V _{min}	
$T_n = C$	V _{max}	
	V _{min}	
T_{mm}	V_n	
	V _{max}	
$T_{\rm max}$	V_{\min}	
	V_n	
	V_{max}	
Max. power in normal co	error measured nditions (dB)	
Admissible e	ггог	± 2.0 dB
Limit for all	power values	≤10 mW

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Adjacent channel power

Carrier Frequency:

MHz

Method of measurement:

power masuring receiver

☐ spectrum analyser

	Frequency of adjacent channel			
	f _o + 25 kHz			
Power inegured	${ m nW}$	$_{ m BW}^{-}$		
Limit	≤ 50 nW	≤ 50 nW		

Modulator sensitivity

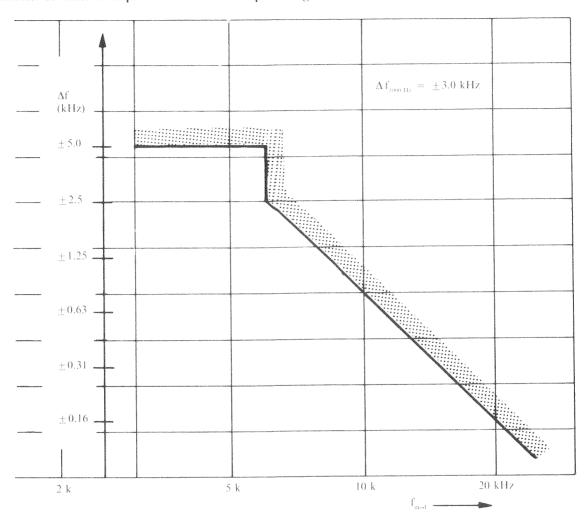
	Circuit level $V_{BL(8000 Hz)} = -24 dBm_{6000 ahms)}$				
Deviation measured	+	kHz kHz			
Limits	± 3.0 kHz	± 4.5 kHz			

Maximum frequency deviation

$$V_{mod\ (max)} = V_{mod\ (normal)} + 20\ dB; \, f_{mod} \leqslant 3000\ Hz$$

		Modulation frequency				
£		00 Hz		Hz		
Maximum	+	kHz		kHz		
deviation		kHz	destilie	kHz		
Limit		± 5.0 kHz				

Transmitter deviation in response to modulation frequencies greater than 3 kHz



Spurious emissions

Carrier frequency

MHz (Channel No.

Transmitter not modulated, anntenna in the operating position

	Frequencies up to 960 MHz			Frequency band 960 MHz-4 GHz		
Spurious emissions (MHz)						
Power (nW)						
Limits	4 nW		250 nW			

Transmit on ot modulated, antenna perpendicular to the operating position

	Frequencies	up to 960 NFHz	Frequency bar 060 MHz-4 GI	
Spuriou > missions (MHz)		· · · · · · · · · · · · · · · · · · ·		
Power (1111)				
Limits	<u> </u> ≤-	ł nW	≤250 nW	

Transmittetmodulated by normal coded test signal

	Frequencies up to 960 MHz	Frequency band 960 MHz-4 GHz
Spurious emissions (MHz)		
Power (n W)		
Limits	≤4 nW	≤ 250 nW

Transmitter modulation with $f_{mod} = 1000 \text{ Hz}$ and $\Delta f = +3.0 \text{ kHz}$

	Frequencies up to 960 MHz	Frequency band 960 MHz-4 GHz
Spurious emissions (MHz)		
Power (n W)		
Limits	≤4 nW	≤250 nW

Transmitter in "standby" position

	Frequencies up to 960 MHz	Frequency band 960 MHz-4 GHz
Spurious emissions (MHz)		
Power (nW)		
Limits	≤4 nW	≤ 250 nW

BASE UNIT RECEIVER

General

Normal test modulation: $f_{mod} = 1 \text{ kHz}$, $\Delta f = \pm 3.0 \text{ kHz}$

Audio-frequency measurement by SND/N through the filter described in CCITT Recommendation P.53A (S = signal; N = noise; D = distortion)

Maximum usable sensitivity

(minimum field strength for an SND/N ratio of 35 dB

Channel No.				
Receiver frequency (MHz)				
$T_n = C$	V _n			
Limit			≤45 dBμV/m	
T. = C.	V _{min}			
$T_n = C$	V _{max}			
	V _{min}			
T_{\min}	V _n			
	V _{max}			
	V _{min}			
$T_{\rm max}$	V _n			
	V _{max}			
Limit		\leq 51 dB μ V/m		
Minimum AF power measured in all conditions				
Limit		50% of nominal AF power = mW		

(The nominal AF power must be stated by the manufacturer)

Secondar 2 sensitivity

(minimus Theld strength for an SND N ratio of 45 dB)

Channel No.	
Receive (frequency (MHz)	
$\Gamma_{v} = C V_{v}$	
Limit	≤ 55 dBμV m

Signal sensitivity

(recognition of coded signal)

	No. of calls sent	No. of calls received
Field strength of signal 25 dBµV m		
Percenta ge		0/ ₀
Limit	ST THE STATE OF TH	80%

Co-channel rejection

	Wanted signal		Unwanted signal	
	Frequency	Level	Frequency	Level
	MHz	$+55 \text{ dB}\mu\text{V/m}$	MHz	$dB\mu V/m$
Difference in level between unwanted and wanted signal			dB	
Limit	≥ -20 dB			

Adjacent channel selectivity

Wanted level = $+55 \text{ dB}\mu\text{V/m}$

Wanted frequency of receiver f _o (MHz)	Reduction of SN the unwanted frequency (adjacent frequency)	D/N to 35 dB by the level of the unwanted signal (dBμV/m)	Ratio between level of wanted and unwanted signal (selectivity)	Limit
for lower adjacent	f _o +25 kHz		dB	
channels	f _o -25 kHz		dB	> 52 dD
for upper adjacent	f _o +25 kHz		dB	≥53 dB
channels	f _o - 25 kHz		dB	

Spurious response rejection

Wanted frequency of receiver f	$C_0 = MHz$ (C	Channel No.)	
Level of unwanted signal over	maximum usable sensitivit	y dBμV/m	
Call triggered by carrier (unwanted signal) modulated by the calling code of the receiver		Ratio (dB) between level of wanted signal and level	Limit
Frequency > 30 MHz to 4 GHz	Level (dBµV/m)	of unwanted signal	
			≥63 dB
	VARIORI I I I I I I I I I I I I I I I I I		

Intermode sition attenuation

Wanted Jequency of rec	eiver f. = MHz		
Wanted kel = -55 dB	βµV m		
Reduction of SND N to	35 dB by	HENNAMESHEEL	; ; }
the frequency of the univarited signal $\Gamma_1 = \Gamma_2$	the level of the unwanted signal E1 = E2	Ratio between level of wanted and unwanted signal	Limit
$f_1 = f_2 - 25 \text{ kHz}$ $f_2 = f_2 - 50 \text{ kHz}$	dBµV m	dB	
$f_1 = f_2 - 25 \text{ kHz}$ $f_2 = f_3 - 50 \text{ kHz}$	dBµV m	dB	S 50 - 100
$f_1 = f_2 + 50 \text{ kHz}$ $f_2 = f_2 + 100 \text{ kHz}$	dBμV m	dB	≥53 dB
$\frac{\Gamma_1 - \Gamma_2}{\Gamma_1} = \frac{\Gamma_2}{\Gamma_2} - \frac{50 \text{ kHz}}{100 \text{ kHz}}$	dBμV m	dB	

Spurious emissions from the receiver

Wanted frequency of receiver		
	Frequencies up to 1 GHz	Frequencies 1 to 4 GHz
Frequency of unwanted signal (M Hz)		
Power (nW)		
Limit	≤2 nW	≤20 nW

HANDSET TRANSMITTER

Frequency error

Nominal frequency (MHz)/ Channel No.		/	/	ĺ
	V _{min}			
$T_n = C$	V _n			
T _{min}	V _{min}			
	V _n			
$V_{ m min}$				
T _{max}	V _n			
Max. freq. error (Hz)				
Limit		≤ ± 2.5 kHz		

Carrier power

Nominal power (stated by manufact	urer)	mW		
Channel No.				
$T_n = C$	V _n			
Nominal power erro	or (dB)			
Admissible error		± 1.5 dB		
$T_n = C$	V_{\min}			
	V_{\min}			
T_{min}	V _n			
$V_{ m min}$				
T_{max} V_{n}				
Max. power error measured in normal conditions (dB)				
Admissible error	± 2.0 dB			
Limit for all power	values	≤10 mW		

	١d	iacent		nower
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Carrier frequency:

MHz

Method or Informement:

___power = neasuring receiver ____spectrum analyser

	Frequency of adjacent channel			
	f 25 kHz	f., 25 kHz		
Power na sisured	nW	пW		
Limit	≤ 50 nW	≤ 50 nW		

Sensitivity of the modulator, including microphone

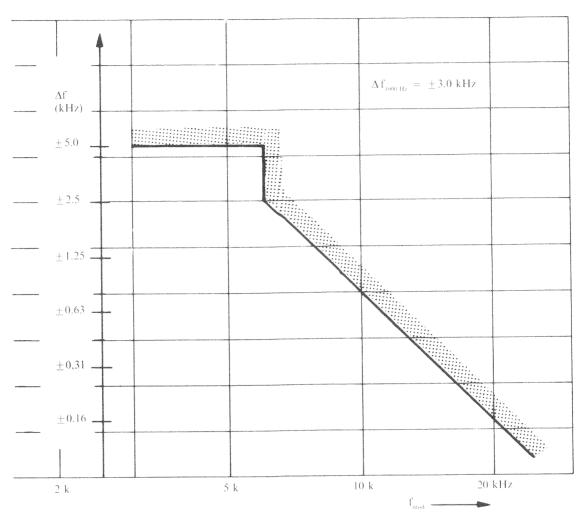
	Sound	pressure IB _{ref 2 - 10 (Pa}
Deviation measured	!	kHz
Limits	±3.0 kHz	kHz ±4.5 kHz

Maximum frequency deviation

$$V_{\text{mod (max)}} = V_{\text{mod (normal)}} + 20 \text{ dB; } f_{\text{mod}} \leqslant 3000 \text{ Hz}$$

		Modulation frequency				
The second section of the section)0 Hz		Hz		
Maximum	+	kHz	+	kHz		
deviation	~~	kHz	National	kHz		
Limit		± 5.0 kHz				

Transmitter deviation in response to modulation frequencies greater than 3 kHz



Spurious emissions

Carrier frequency MHz (Channel No.

Transmitter not modulated, antenna in the operating position

	Frequencies up to 960 MHz		Frequency band 960 MHz-4 GHz		d Iz	
Spurious emissions (MHz)						
Power (nW)						45.50
Limits		≤4 nW			≤250 nW	

Fransmit by not modulated, antenna perpendicular to the operating position

	Frequencies up to 960 N1Hz		Frequency band 960 MHz-4 GHz
Spurious temissions (MHz))	:
Power (1/1/)			
Limits	≤4 nW		≤250 nW

Transmitt et modulated by normal coded test signal

	Frequencies up to 960 MHz	Frequency band 960 MHz-4 GHz	
Spurious emissions (MHz)			
Power (17W)			
Limits	≤4 nW	≤250 nW	

Transmitter modulation with $f_{\rm mod} = 1000~Hz$ and $\Delta f = +3.0~kHz$

	Frequencies up to 960 MHz	Frequency band 960 MHz-4 GHz	
Spurious emissions (MHz)			
Power (n W)			
Limits	≤4 nW	≤250 nW	

Transmitter in "standby" position

	Frequencies up to 960 MHz	Frequency band 960 MHz-4 GHz	
Spurious emissions (MHz)			
Power (nW)			
Limits	≤4 nW	≤250 nW	

HANDSET RECEIVER

General

Normal test modulation: $f_{mod} = 1 \text{ kHz}$, $\Delta f = \pm 3.0 \text{ kHz}$

Audio-frequency measurement by SND/N through the filter described in CCITT Recommendation P.53A (S = signal; N = noise; D = distortion)

Maximum usable sensitivity (minimum field strength for an SND/N ratio of 35 dB)

Channel No.				
Receiver frequency (MHz)				
$T_n = {}^{*}C$	V _n			
Limit	fa.	\leq 45 dB μ V/ ι	n	
$T_0 = C$	V _{min}			
Vmin				
T _{min}	V _n			
T	V_{\min}			
T_{max}	V _n			
Limit		≤51 dBμV/r	n	
Minimum AF power measured in all conditions				
Limit		50% of nominal AF power = mW		

(The nominal AF power must be stated by the manufacturer)

Secondar sensitivity

tminimum Held strength for an SND N ratio of 45 dB)

Channe INo.				
Receive Fin	equency (MI	(12)		
Τ	Č	V_{η}		
Limit		$\leq 55 \text{ dB}\mu\text{V m}$		

Signal sensitivity

(recognition of coded signal)

	No. of calls sent	No. of calls received
Field strength of signal 25dBμV m		
Percenta ge	0/ ₀	
Limit	≥ 80 %	

Co-channel rejection

	Wanted signal		Unwanted signal	
	Frequency	Level	Frequency	Level
		$+55 \text{ dB}\mu\text{V/m}$	MHz	$dB\mu V/m$
Difference in level between unwanted and wanted signal			dB	
Limit	≥ - 20 dB			

Adjacent channel selectivity

Wanted level = $+55 \text{ dB}\mu\text{V/m}$

Wanted frequency	Reduction of SNI	D/N to 35 dB by	Ratio between level of wanted and unwanted signal (selectivity)	Limit
of receiver f _o (MHz)	the unwanted frequency (adjacent frequency)	the level of the unwanted signal (dBμV/m)		
for lower adjacent channels	f _o +25 kHz		dB	
	f ₀ -25 kHz		dB	
for upper adjacent channels	f _o +25 kHz		dB	≥53 dB
	f _o - 25 kHz		dB	

Spurious response rejection

Wanted frequency of receive	$r f_o = MHz$ (Ch	annel No.	
Level of unwanted signal ov	er maximum usable sensitivity	$dB\mu V/m$	
Call triggered by carrier (un signal) modulated by the cal of the receiver Frequency > 30 MHz to 4 GHz	wanted ling code Level (dBμV/m)	Ratio (dB) between level of wanted signal and level of unwanted signal	Limit
			≥63 dB

Intermociliation attenuation

Wante direquency of rece	iver f == MHz		
Wante cllevel ≈ +55 dB _p	tV m		
Reduction of SND N to I the frequency of the unwanted signal $f_1 + f_2$	the level of the unwanted signal E1 = E2	R atio between level of wanted and unwanted signal	Limit
$f_1 = f_2 - 25 \text{ kHz}$ $f_2 = f_2 - 50 \text{ kHz}$	dBμV m	dB	
$f_1 = f_2 - 25 \text{ kHz}$ $f_2 = f_2 - 50 \text{ kHz}$	dBμV m	dB	≥ 53 dB
$f_1 = f_0 + 50 \text{ kHz}$ $f_2 = f_0 + 100 \text{ kHz}$	dBμV m	dB	200 (II)
$f_1 = f_0 - 50 \text{ kHz}$ $f_2 = f_0 - 100 \text{ kHz}$	dBμV.m	dB	

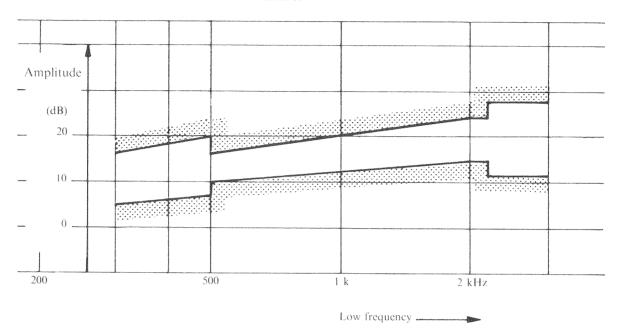
Spurious emissions from the receiver

Wanted frequency of receiver f	MHz.		
	Frequencies up to 1 GHz	Frequencies 1 to 4 GHz	
Frequency of unwanted signal (MHz)			
Power (nW)			
Limit	≤2 nW	≤ 20 nW	

AF. Audio-frequency response and distortion ration

The transmitter and receiver are operated simultaneously at distances of 3, 5, 10 or 30 m. The transmitters are modulated with a deviation of ± 3.0 kHz.

Field of tolerance in the direction base unit → handset



Field of tolerance in the direction handset → base unit

