

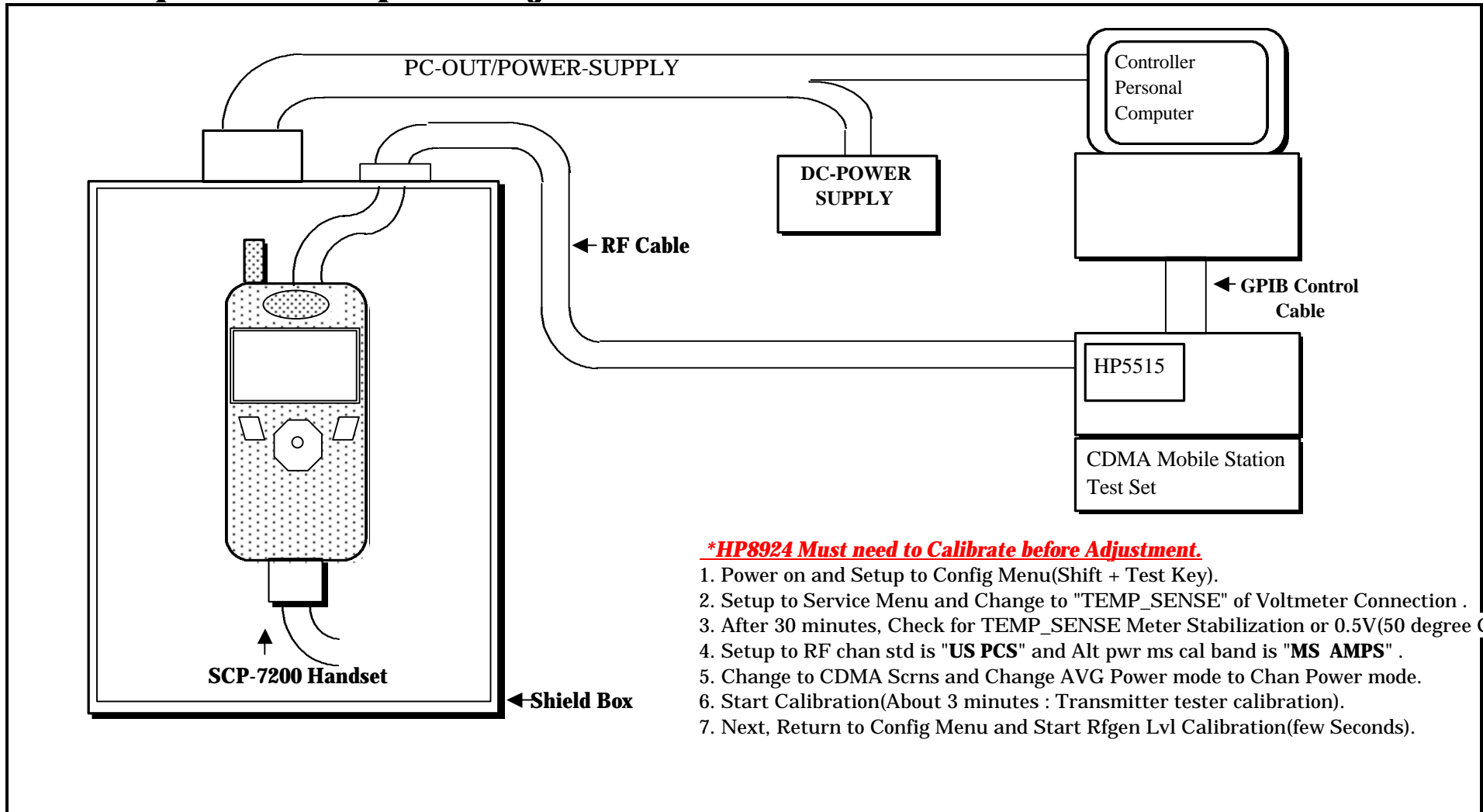
AEZSCP-72H (SCP-7200) Adjustment Discription for Mass production.

1-163-430-00	SCP-7200/H.US

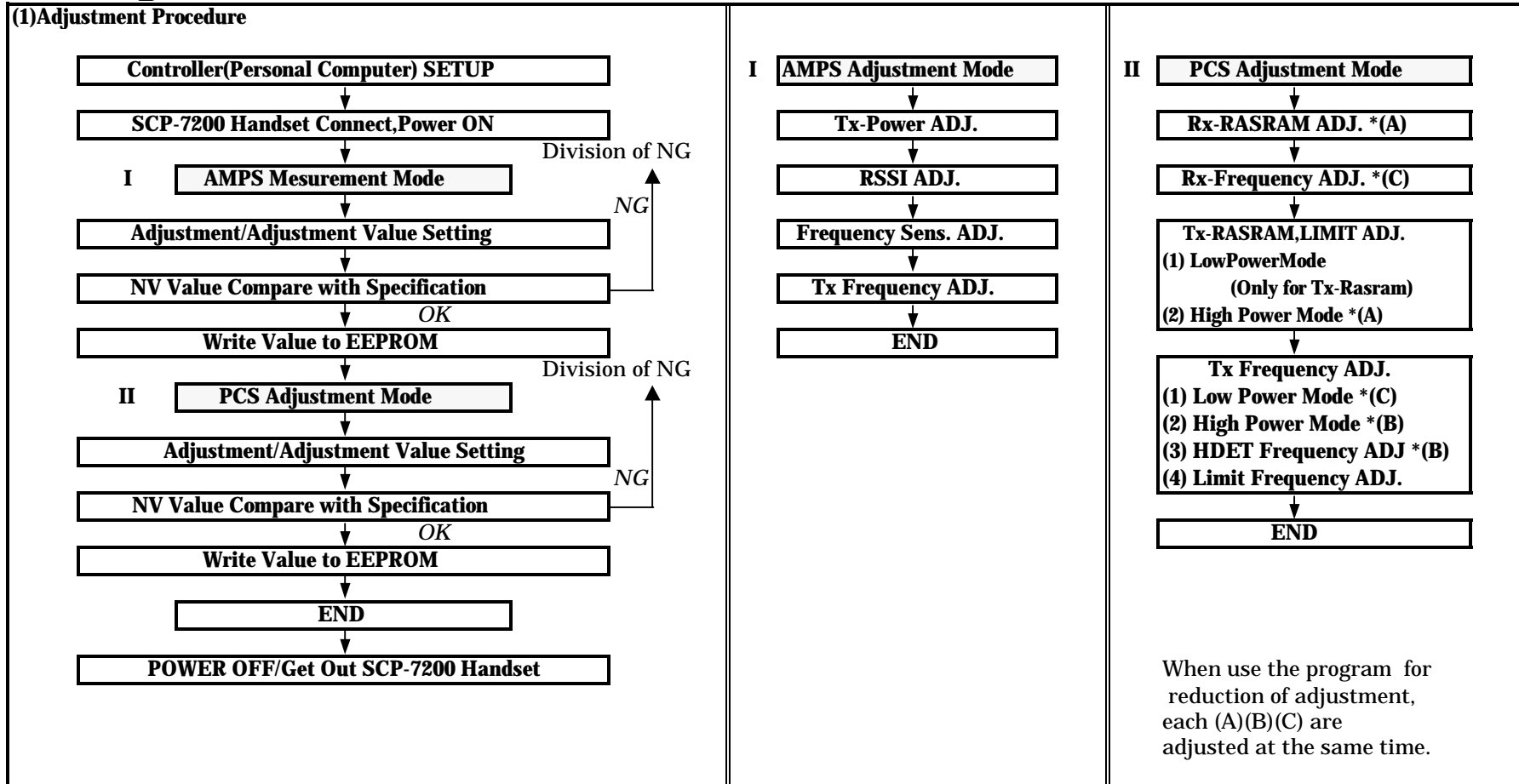
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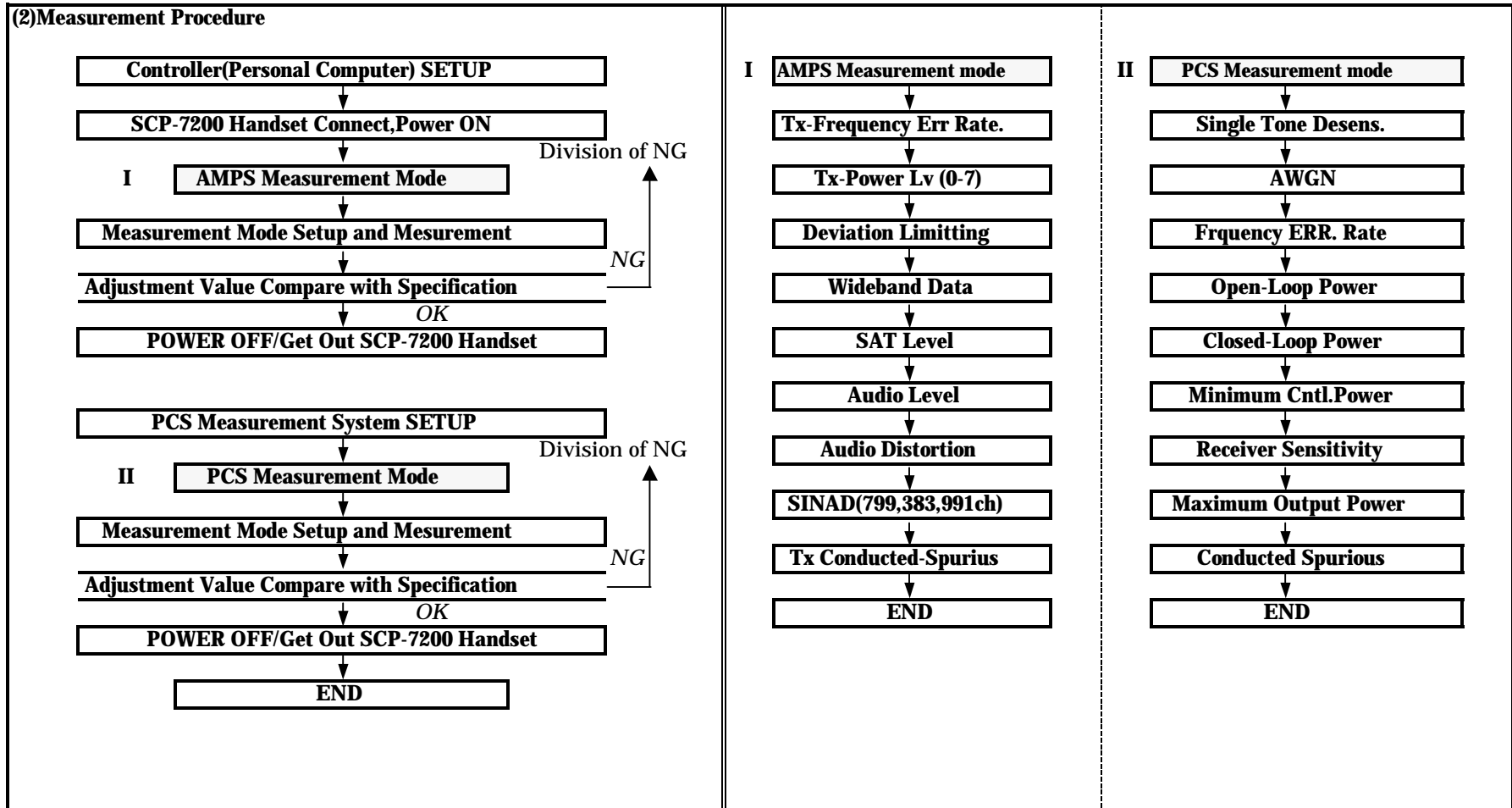
1. Set-Up for Tune-Up and Adjustment of Transmitter



2 Alignment Procedure



2 Alignment Procedure



2.PCS RX Adjustment

ITEM	Sub-ITEM	Handset Setup(Internal Setup)	HP5515 Setup	Adj. Value	Accuracy of NV-Value
Rx-RASRAM Adjustment	Table 1	Normal Mode	CDMA Ch=563 :SG LV=-106.0dBm	-106.0dBm	
	Table 2	OFF Line Mode	SG LV=-100.6dBm	-100.6dBm	
	Table 3		SG LV=-95.3dBm	-95.3dBm	
	Table 4		SG LV=-90.0dBm	-90.0dBm	
	Table 5		SG LV=-84.7dBm	-84.7dBm	
	Table 6		SG LV=-79.4dBm	-79.4dBm	
	Table 7		SG LV=-74.1dBm	-74.1dBm	
	Table 8		SG LV=-68.8dBm	-68.8dBm	
	Table 9		SG LV=-63.5dBm	-63.5dBm	
	Table 10		SG LV=-58.1dBm	-58.1dBm	
	Table 11		SG LV=-52.8dBm	-52.8dBm	
	Table 12		SG LV=-47.5dBm	-47.5dBm	
	Table 13		SG LV=-42.2dBm	-42.2dBm	
	Table 14		SG LV=-36.9dBm	-36.9dBm	
	Table 15		SG LV=-31.6dBm	-31.6dBm	
	Table 16		SG LV=-26.3dBm	-26.3dBm	
	Table 17		SG LV=-21.0dBm	-21.0dBm	
RX AGC Frequency Adjustment	Bk 0=38ch	Normal Mode	RF INPUT(SG) LV=-63.5dBm	AGC DIFF.	
	Bk 1=113ch	Reference ch :1163ch	Change to Channel 16 Time.	AGC DIFF.	
	Bk 2=188ch	Deference of Center ch AGCsym.		AGC DIFF.	
	Bk 3=263ch	Change to Channel 16 Time.		AGC DIFF.	
	Bk 4=338ch	OFF Line Mode		AGC DIFF.	
	Bk 5=413ch			AGC DIFF.	
	Bk 6=488ch			AGC DIFF.	
	Bk 7=563ch			AGC DIFF.	
	Bk 8=638ch			AGC DIFF.	
	Bk 9=713ch			AGC DIFF.	
	Bk10=788ch			AGC DIFF.	
	Bk11=863ch			AGC DIFF.	
	Bk12=938ch			AGC DIFF.	
	Bk13=1013ch			AGC DIFF.	
	Bk14=1088ch			AGC DIFF.	
Bk15=1163ch			REF CH.		

3.Adjustment Value

3.PCS TX & TX-LIMIT Adjustment

ITEM	Sub-ITEM	Handset Setup(Internal Setup)	HP5515 Setup	Adj. Value	Accuracy of NV-Value
Tx-RASRAM Adjustment Adjusted by Low Power Mode & High Power Mode & Tx-Limit Adjustment *Only for High Power Mode		<u>Nomal Test Mode</u>	PCS Ch=1163ch	+23.5dBm	
			SG level is cording to the transmission power level of MS	-50.0dBm	
	Table 1		PCS Ch=1163ch	+8.75dBm	
	Table 2			+10.1dBm	
	Table 3			+11.4dBm	
	Table 4			+12.7dBm	
	Table 5			+14.1dBm	
	Table 6			+15.4dBm	
	Table 7			+16.7dBm	
	Table 8			+18.1dBm	
	Table 9			+19.4dBm	
	Table 10			+20.7dBm	
	Table 11			+22.1dBm	
	Table 12			+23.4dBm	
	Table 13			+23.5dBm	
	Table 14			+23.5dBm	
	Table 15			+23.5dBm	
	Table 16			+23.5dBm	
	OFFSET	Offset : 16.7dB(Table 7)		+16.7dBm	
	SPN	Spn : 26.0dBm(Table 14)		+23.5dBm	

3.Adjustment Value

4.PCS(CDMA)Tx AGC Frequency Adjustment and Tx Limit Frequency Adjustment.					
TX AGC Frequency Adjustment Adjusted by Low Power Mode & High Power Mode	BK 0~14 *1 (ch)	Nomal Test Mode	RF INPUT(SG) LV=Low:-63.5dBm	Tx-Pow diff.	
		Reference ch :1163ch	High:-92.0dBm		
		Difference of Center ch AGCsym. Change to Channel 16 Time.	Change to Channel 16 Time.		
		12Symb=1.0dBm Supplementary value:Difference of TX-power change to symb.			
	Bk15=1163ch				
HDET Frequency Adjustment	BK 0~14 *1 (ch)	Nomal Test Mode	RF INPUT(SG) LV=HDET:-92dBm	Tx-Pow diff.	HDET diff.
		Reference ch :1163ch	Change to Channel 16 Time.		
		Difference of Center ch AGCsym. Change to Channel 16 Time.			
		Difference of HDET			
	Bk15=1163ch				
TX Limit Frequency Adjustment	BK 0~14 *1 (ch)	Nomal Test Mode	RF INPUT(SG) LV=-92.0dBm	*2	
		Reference ch :1163ch	Change to Channel 16 Time.		
		Difference of Center ch AGCsym. Change to Channel 16 Time.			
		Supplementary value:Difference of HDET value change to AGC			
	Bk15=1175ch			*3	

4.Measurement Specification of Adjustment

1.AMPS Mesurement Specification

SCP-7200

Measurement Item	Standard Item	IS98A Standard Spec	Measurement Spec	Measurement Condition	Measurement Channel	Others
Tx-Frequency Err	TIA/EIA-98-B:3.1.2	< ±2.5ppm	< ±2.0ppm	Measurement Equipment Accuracy < 0.1ppm	383(M)	
Tx-Power Level(0,1,2)	TIA/EIA-98-B:3.2.1	24dBm to 30dBm (ERP)	24.5dBm to 25.5dBm 24.5dBm to 25.5dBm 24.5dBm to 25.5dBm	Measurement Equipment	991(L) 383(M) 799(H)	
Tx-Power Level(3)	TIA/EIA-98-B:3.2.1	20dBm to 26dBm (ERP)	20.0dBm to 23.5dBm		383(M)	
Tx-Power Level(4)	TIA/EIA-98-B:3.2.1	16dBm to 22dBm (ERP)	16.0dBm to 21.0dBm		383(M)	
Tx-Power Level(5)	TIA/EIA-98-B:3.2.1	12dBm to 18dBm (ERP)	12.0dBm to 17.0dBm		383(M)	
Tx-Power Level(6)	TIA/EIA-98-B:3.2.1	8dBm to 14dBm (ERP)	8.0dBm to 13.0dBm		383(M)	
Tx-Power Level(7)	TIA/EIA-98-B:3.2.1	4dBm to 10dBm (ERP)	4.0dBm to 9.0dBm		383(M)	
Deviation Limitting	TIA/EIA-98-B:3.3.2.3	< ±12Khz dev.	< ±12Khz dev.	Comp=ON,SAT=OFF HF Mode,Mic=6.3V IN	383(M)	
Wideband Data	TIA/EIA-98-B:3.3.3	±8Khz dev. ± 10%	±8Khz dev. ± 10%	Wideband Mode	383(M)	
SAT Level	TIA/EIA-98-B:3.3.4	±2Khz±0.2Khz dev.	±2Khz±0.2Khz dev.	SAT Mode	383(M)	
ST Level	TIA/EIA-98-B:3.3.5	±8Khz dev. ± 10%	±8Khz dev. ± 10%	ST Mode	383(M)	
Audio Distortion	TIA/EIA-98-B:2.2.2.5	< 5%	<5%	Voice Mode 8KHZdev -50dBm	383(M)	
Audio Level		Medium High	50.0mV±3dB	2.9KdeV(1Khz)	383(M)	
SINAD	TIA/EIA-98-B:2.3.1	> 12dB	> 12dB	RF IN = -116.5dBm	991(L),799(H)	
Antenna Effect			Reff.Set+/-3dB	Max Power Output	799(H)	

2. PCS Measurement Specification(98D)

SCP-7200

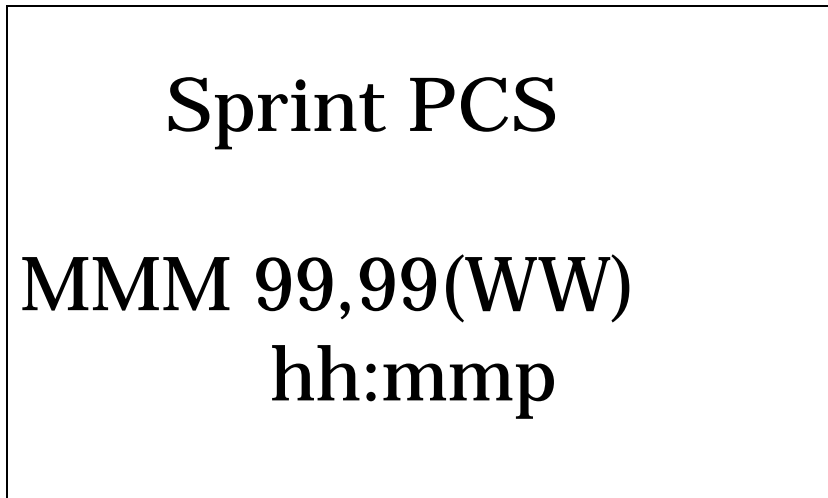
Measurement Item	Standard Item	IS98C Standard Spec	Measurement Spec	Measurement Condition	Measurement Channel	Others
<i>RTC Demod. of FW.ch</i>	TIA/EIA-98-D 3.3.3			Rateset2 SVC opt9		
AWGN Test10(Eb/Nt=4.1)		1%(0.010)	1%(0.010)	7200(TEST10)	25ch	
<i>Waveform Quality</i>	TIA/EIA-98-D			Rateset2 SVC opt9		
RHO	4.3.2	>0.944	>0.944	14400bps	25ch	
Frequency Err Rate	4.1.1	±150Hz	±150Hz		25ch	
Time Offset	4.3.1	±1uS	±1uS		25ch	
<i>TTC Range of Openloop</i>	TIA/EIA-98-D			Rateset2 SVC opt9		
Openloop Power Test1	4.4.1	-51±9.5(CLASS II)	-51±9.5(CLASS II)	14400bps	25ch	
Openloop Power Test2		-11±9.5(CLASS II)	-11±9.5(CLASS II)		25ch	
Openloop Power Test3		20±9.5(CLASS II)	20±9.5(CLASS II)		25ch	
<i>TTC Range of Closedloop</i>	TIA/EIA-98-D			Rateset2 SVC opt9		
Closedloop Full Power	4.4.4	RF Output = -15dBm	-14±3dBm	14400bps	25ch	
Closedloop Max Power		>+24dB	>+24dB			
<i>TTC Min. Controlled Pow</i>	TIA/EIA-98-D			Rateset2 SVC opt9		
Minimum Controlled Pow	4.4.6	-50dBm/1.23MHz	-50dBm/1.23MHz	14400bps	25ch	
<i>RTC Receiver Sensitivity</i>	TIA/EIA-98-D			Rate2 Full -107.0dBm	600ch, 1175ch	
Receiver Sensitivity FER	3.4.1	0.5%(Confidence95%)	1.0%(Confidence95%)	Rate2 Full -106.0dBm	25ch	
<i>Single Tone Desens.</i>	TIA/EIA-98-D			Rate2 Full -101.0dBm		
Sensitivity FER	3.4.2	1.0%(Confidence95%)	1.0%(Confidence95%)	Undesired>-30dBm	1175ch(-)	
<i>TTC Max RF Output Pow</i>	TIA/EIA-98-D				25ch	
Max Power Output	4.4.5	23.0dBm~30.0dBm (EIRP)	22.2dBm~23.5dBm 22.2dBm~23.5dBm 22.2dBm~23.5dBm		600ch 1175ch	
<i>TTC Conducted Spurious</i>	TIA/EIA-98-D			SCV Opt9(14400)		
>1.25MHz	3.5.1	< -42dBc	< -43dBc	Max Power Output	1175ch	
>1.98MHz		< -50dBc	< -53dBc	Max Power Output	1175ch	
>2.25MHz		< -13dBm				

FCC TEST MODE OPERATION MANUAL

[FCC TEST Start Up]

1): Push the "POWER" Key.

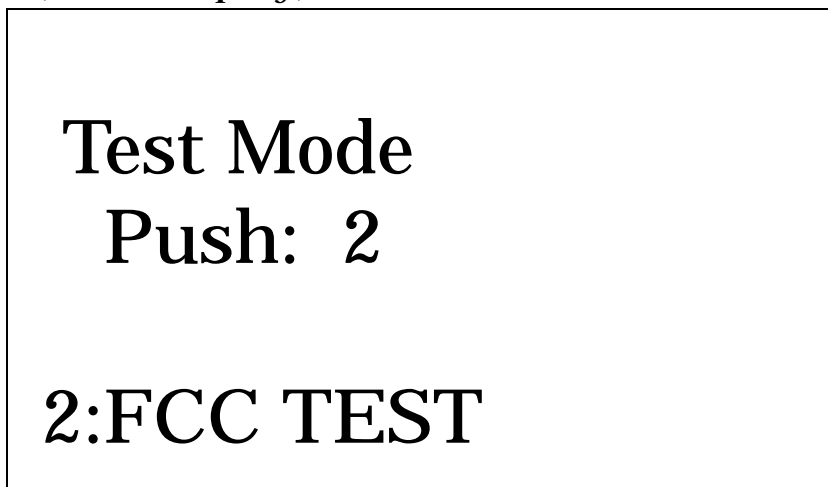
(LCD Display)



2): It transits to "Test_Mode".

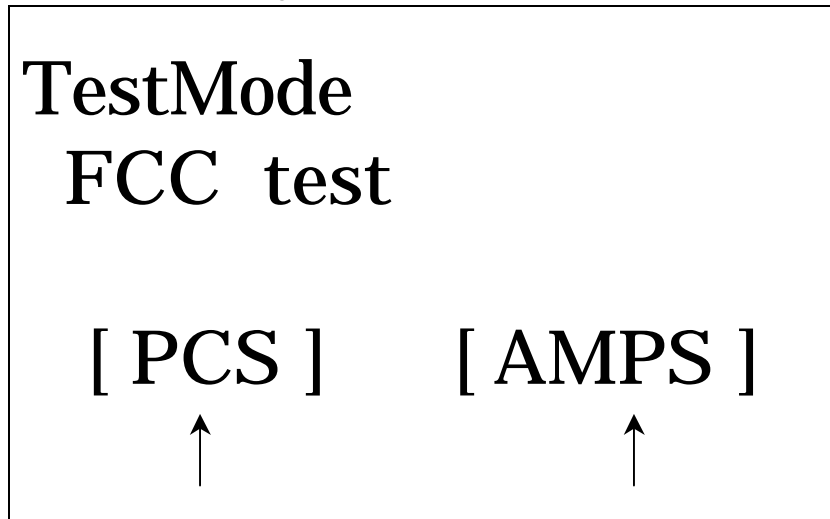
Push the "MENU" Key and Push the "◀ (left)" Key .

(LCD Display)



3): Push the “2” Key, then entered the FCC TEST Mode.

(LCD Display)



[PCS Inspection Mode] [AMPS Inspection Mode]

When the above screen, push either the “ ◀ (left)” Key or the “ ▶ (right)” Key.

Push the “ ◀ (left)” Key, then switched PCS mode

(Displayed the Initial Screen of PCS Mode)

(The Initial Screen of PCS Mode is TX setting screen; See Page 7)

Push the “ ▶ (right)” Key, then switched AMPS Mode

(Displayed the Initial Screen of AMPS Mode)

(The Initial Screen of AMPS Mode is RX setting screen; See Page 3)

[**AMPS Mode**]

1) **RX Mode (Receiving only)**

(LCD Display)

FCC AMPS RX MODE CHANNEL RV PATH (No display) (No display)
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MODE : “RX”

CHANNEL : “CH: Current Channel Number”

RV PATH : “Dis or Ena”

(Dis =Disable Receiving voice path)

(Ena =Enable Receiving voice path)

2) **RX and TX mode**

1) Push “TALK” Key.

(LCD Display)

FCC AMPS TX MODE CHANNEL RV PATH COMPRESSOR POWER VOICE PATH
--

MODE : “TX”

CHANNEL : “CH: Current Channel Number”
COMPRESSOR : “Comp : ON” or “Comp : OFF”
POWER : “Tx Pwr : Number of 0 to 7”

The target Tx power is as follows .

0 = 1 = 2 = 25.5 dBm

3 = 23.0 dBm

4 = 19.0 dBm

5 = 15.0 dBm

6 = 11.0 dBm

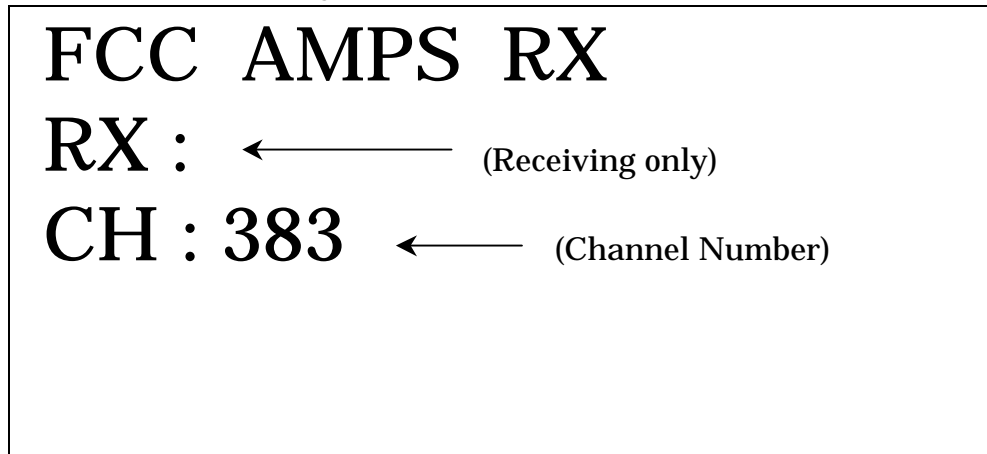
7 = 7.0 dBm

RV PATH : “Dis or Ena”
(Dis =Disable Receiving voice path)
(Ena =Enable Receiving voice path)

VOICE PATH : “FREE, HAND or HEAD”

3) RX Mode (default)

(LCD Display)



1) Setting the channel

Push the “ * ” Key.

(Sequentially switched “ 383 → 799 → 991 ”)

2) Switch the mod. (RX mode to RX/TX Mode)

Push the **"TALK"** Key. (Switched to RX/TX Mode)

<RX Mode Parameter>

TX/RX Voice Path : Dis

TX : OFF

Mic : OFF

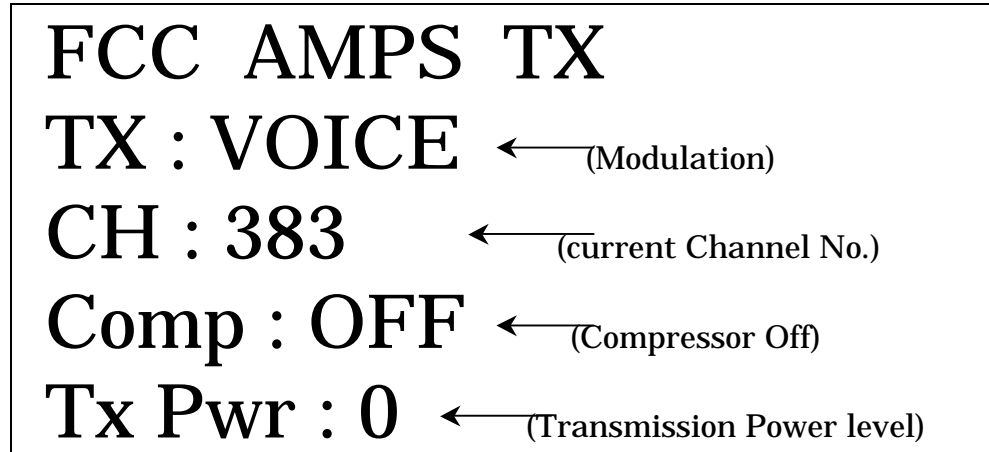
RX : ON

Speaker : OFF

ANT : Inner Antenna active

4) **RX / TX Mode**

(LCD Display)



1) **Setting the Channel**

Push the “*” Key

(Sequentially switched “ **383** → **799** → **991** “)

Note : If displayed TX : SAT+DTMF, can not set the Channel.

Please change another modulation. (See next section)

2) **Setting the Modulation**

Push the “ ▲ ” Key(up)

(Sequentially switched “ **No Modula** → **VOICE** → **WBD** → **SAT** →
ST → **SAT+VOICE** → **SAT+ST** → **SAT+DTMF**)

No Modula	: No Modulation
VOICE	: Mic ON, that is, activated Audio path.
WBD	: Activated Wide Band Data
SAT	: Output SAT
ST	: Output ST
SAT+VOICE	: Mic. ON, modulation signal is Voice added SAT.
SAT+ST	: the modulation signal is SAT added ST.
SAT+DTMF	: the modulation signal is SAT added DTMF.

3) **Setting the compressor**

push the “3” Key : Compressor ON (displayed “**Comp : ON**”)

Push the “**BACK**” Key : Compressor OFF (displayed “**Comp: OFF**”)

Note: When set the **SAT+DTMF** Mode, then can not to set the compresor.

4) Setting the transmission power level.

Displayed the transmission level No, that is, 0 to 7.

Push the “4” Key. (Up the transmission level, decrement a number)

Push the “6” Key. (Down the transmission level, increment a number)

Note: When set the **SAT+DTMF** Mode, then can not to set the **power level**.

5) Switch the Mode. (TX Mode → RX Mode)

Push the “**END**” Key.

Note: When set the **SAT+DTMF** Mode, then can not to switch the **RX Mode**.

6) Setting the Voice path

Push the “1” Key. (Enable the receiving voice path)

Push the “2” Key. (Disable the receiving voice path)

Note: When set the **SAT+DTMF** Mode, then can not to set the receiving voice path.

7) Change the CODEC path.

Push the “#” Key.

(Sequentially switched “ **FREE → HAND → HEAD** ”)

Note: Except **VOICE** and **SAT+VOICE** modes, can not change the voice path.

FREE: External I/F active

HAND: Internal Mic active

HEAD: Ear/Mic active

When input the voice signal, let you set the “FREE” and use the External I/F.

8) Quit.

Push the “**END**” Key . (Exit FCC AMPS Test Mode.)

(Display change the initial Screen, see page 2)

Push the **"END"** Key . (Exit FCC Test Mode.)
(Display change the initial Screen, see page 1)

[PCS Mode]

1) Tx, TRx and Rx Mode

(Tx mode)

(LCD Display)

<p>FCC PCS</p> <p>Tx</p> <p>CH : 25 ←(Channel Number)</p> <p>XX (Don't Care)</p> <p>XX (Don't Care)</p>
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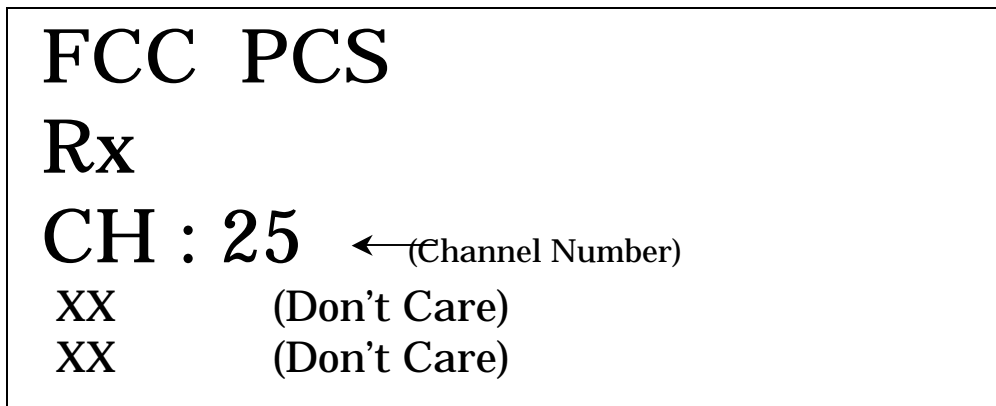
(Tx/Rx mode)

(LCD Display)

<p>FCC PCS</p> <p>TRx</p> <p>CH : 25 ←(Channel Number)</p> <p>XX (Don't Care)</p> <p>XX (Don't Care)</p>

(Rx Mode)

(LCD Display)



PCS Initial screen is Tx mode.

1) Mode switch

Push the “#” Key.

(Sequentially switched “ **Tx mode**→ **TRx mode** → **Rx mode** ”)

2) Channel Number setting

Push the “ * ” Key.

(Sequentially switched “ **25** → **600** → **1175** ”)

3) Quit

Push the “**END**” Key . (Exit FCC PCS Test Mode.)

(Display change the initial Screen, see page 2)

Push the “**END**” Key . (Exit FCC Test Mode.)

(Display change the initial Screen, see page 1)