



DUAL BAND GSM TELEPHONE SGH-A400

SERVICE *Manual*

DUAL BAND GSM TELEPHONE



CONTENTS

1. Exploded Views and Parts List
2. Electrical Parts List
3. Block Diagrams
4. PCB Diagrams
5. Flow Chart of Troubleshooting and Circuit Diagram

1. Exploded Views and Parts List

- 1-1 SGH-A400 GSM Telephone Exploded View**
- 1-2 SGH-A400 GSM Telephone Parts List**
- 1-3 SGH-A400 Travel Adapter**
- 1-4 SGH-A400 Travel Adapter Parts List**
- 1-5 SGH-A400 Cigarette Lighter Adaptor**
- 1-6 SGH-A400 Cigarette Lighter Adapter Parts List**
- 1-7 SGH-A400 Test Jig**
 - 1-7-1 SGH-A400 Test Jig Cable**
 - 1-7-2 SGH-A400 RF Jig Cable**
 - 1-7-3 SGH-A400 Test Jig**

2. Electrical Parts List

3. Block Diagrams

- 3-1 Main Block Diagram**
- 3-2 Main RF**
 - 3-2-1 RF Tx Part**
 - 3-2-2 RF Rx Part**

4. PCB Diagrams

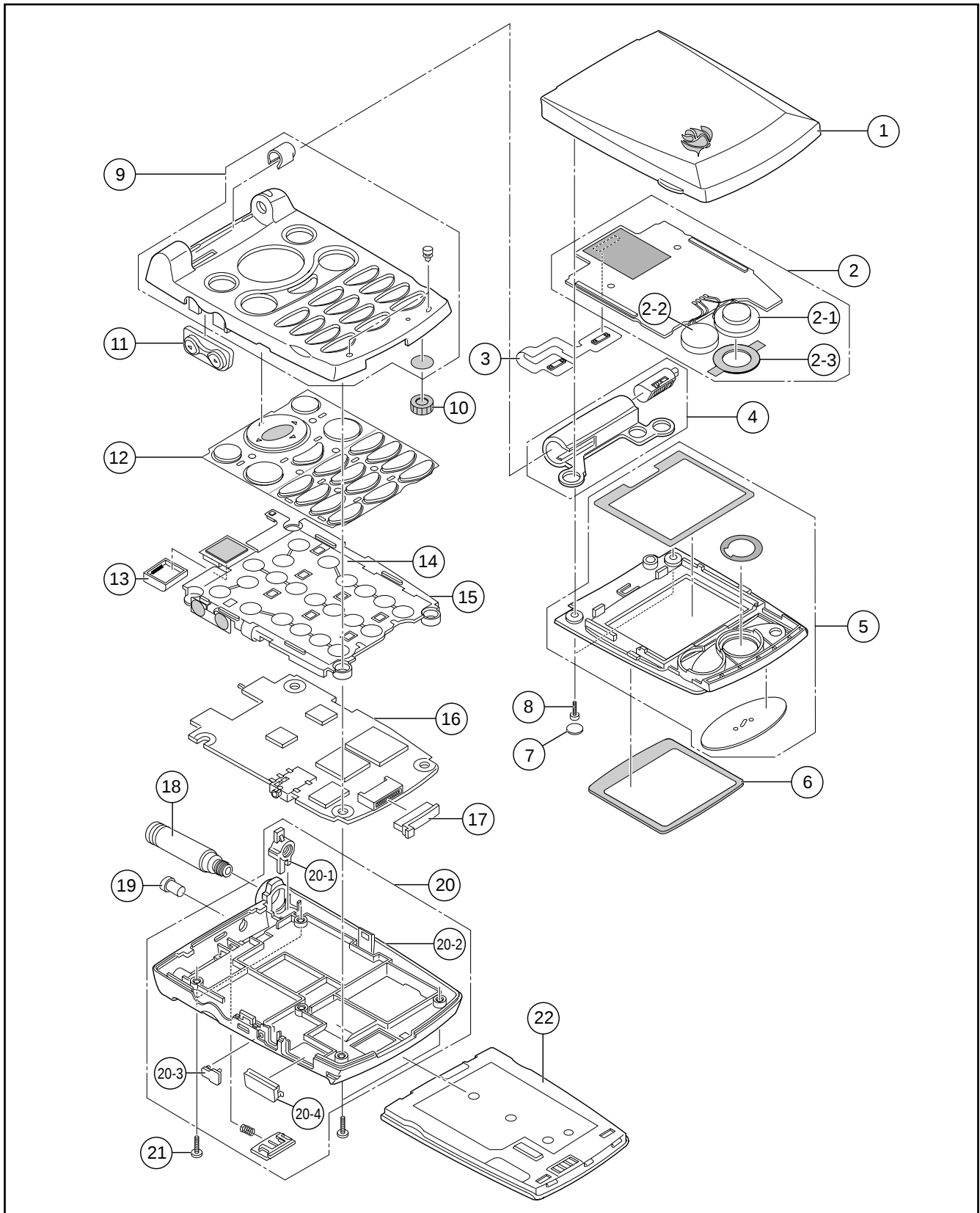
- 4-1 Main Top**
- 4-2 Main Bottom**

5. Flow chart of trouble shooting

- 5-1 Power ON**
- 5-2 Initial**
- 5-3 Sim Part**
- 5-4 Charging Part**
- 5-5 Microphone Part**
- 5-6 Speaker Part**
- 5-7 Key Data Input**
- 5-8 Ring Indicator**
- 5-9 Back Light**
- 5-10 Alert Tone**
- 5-11 GSM Receiver**
- 5-12 GSM Transmit**
- 5-13 DCS Receiver**
- 5-14 DCS Transmit**

1. SGH-A400 Exploded View and its Parts List

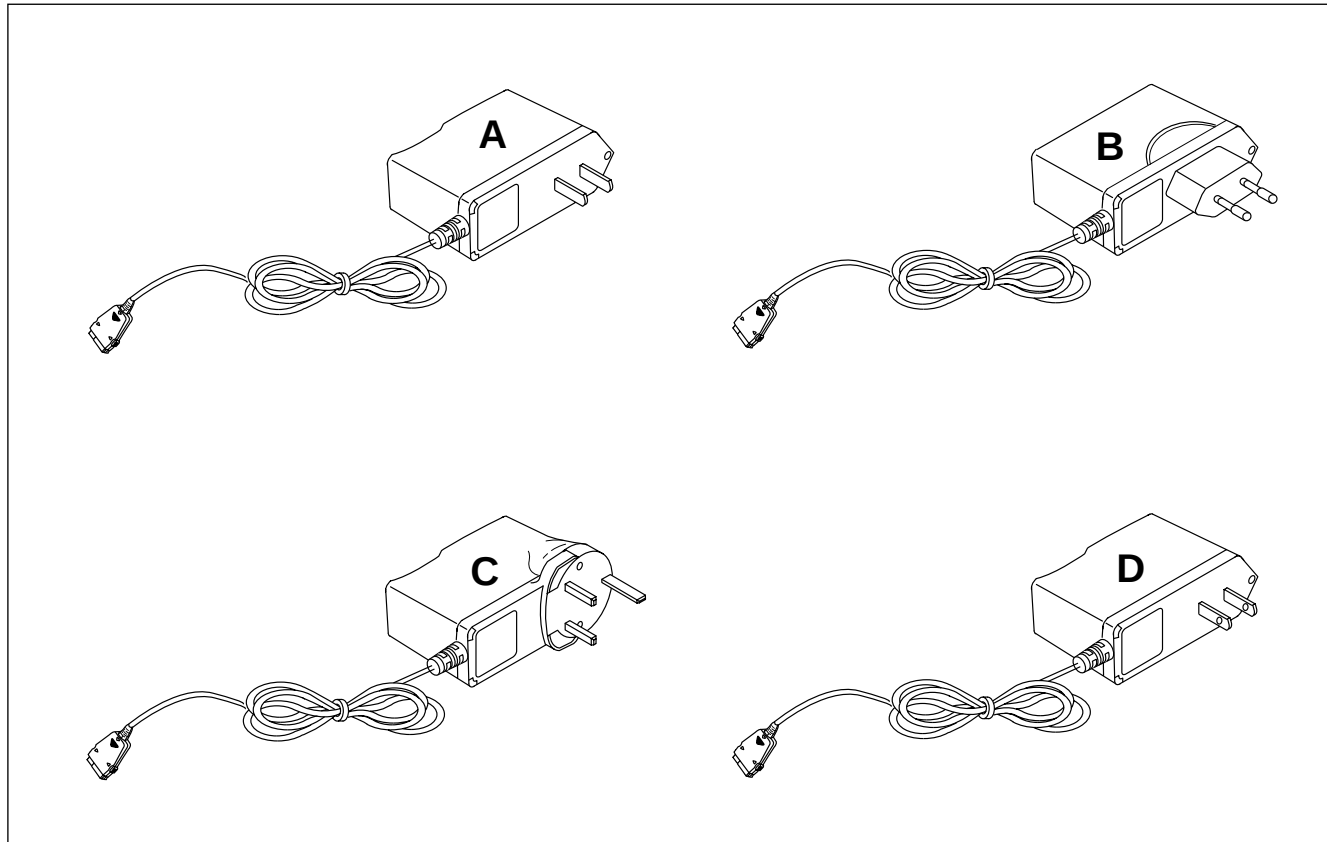
1-1 SGH-A400 GSM Telephone Exploded View



1-2 SGH-A400 GSM Telephone Parts List

NO		DESCRIPTION	SEC.CODE	REMARK	
1		MEC-FOLDER UPPER	GH75-01200A	SA	
2		LCD ASS'Y	GH07-00084A	SA	
	2-1	SPEAKER ASS'Y	GH59-00239A	SA	
	2-2	VIBRATOR ASS'Y	GH31-00030A	SA	
	2-3	SHIELD NET	GH74-01653A	SA	
3		FPCB	GH59-00242A	SA	
4		HINGE HOLDER ASS'Y	GH75-01109B	SA	
5		MEC-FOLDER LOWER	GH75-01201A	SA	
6		WINDOW-LCD	GH72-01726B	SA	
7		HOLE SHEET	GH74-01013K	SA	
8		SCREW-MACHINE	6001-001155	SA	
9		MEC-FRONT COVER	GH75-01198A	SA	
10		MIC	GH59-00245A	SA	
11		VOLUME ASS'Y	GH75-00948A	SA	
12		KEY PAD-SILVER	GH72-02705A	SA	
13		HOLDER-BUZZER	GH73-00777A	SA	
14		KEY-PCB ASS'Y	GH59-00217A	SA	
15		SHIELD COVER	GH71-00512A	SA	
16		PBA	GH92-00985A	SA	
17		COVER CONNECTOR	GH73-00779A	SA	
18		ANTENNA	GH42-00119A	SA	
19		RF JACK HOLDER	GH73-00502F	SA	
20		MEC-REAR COVER	GH75-01199A	SA	
	20-1	ANTENNA LOCKER	GH71-00511A	SNA	
	20-2	REAR COVER	GH72-02702A	SNA	
	20-3	COVER-EARPHONE	GH73-00776A	SNA	
	20-4	WINDOW-IrDA	GH72-02825A	SNA	
21		SCREW-MACHINE	6001-000883	SA	
22		BATTERY	GH43-00347A	SA	650 mAh

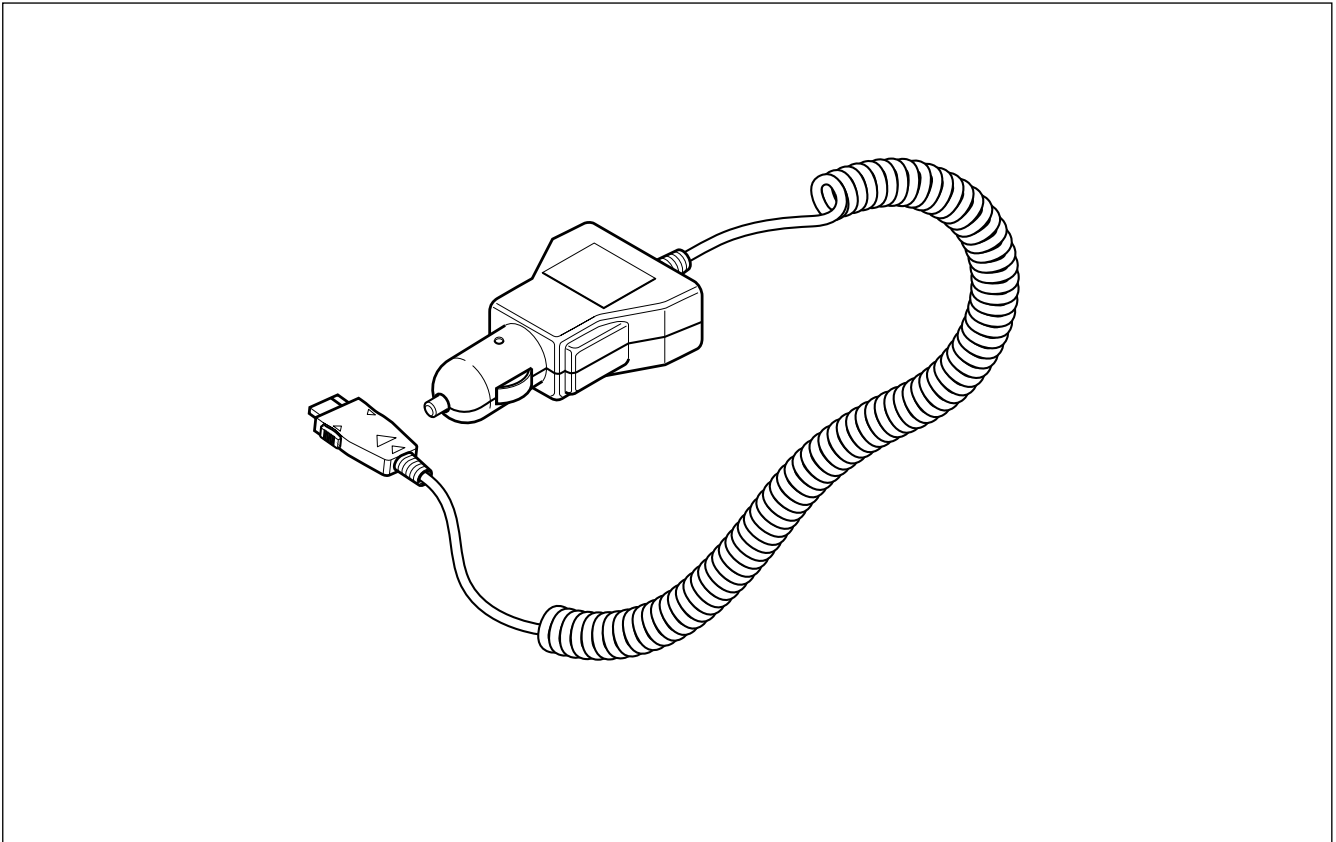
1-3 SGH-A400 Travel Adapter



1-4 SGH-A400 Travel Adapter Parts List

TYPE	SEC CODE	REMARK
A	GH44-00171A	CHINA
B	GH44-00184A	EUROPE
C	GH44-00171C	UNITED KINGDOM
D	Gh44-00171E	TAIWAN

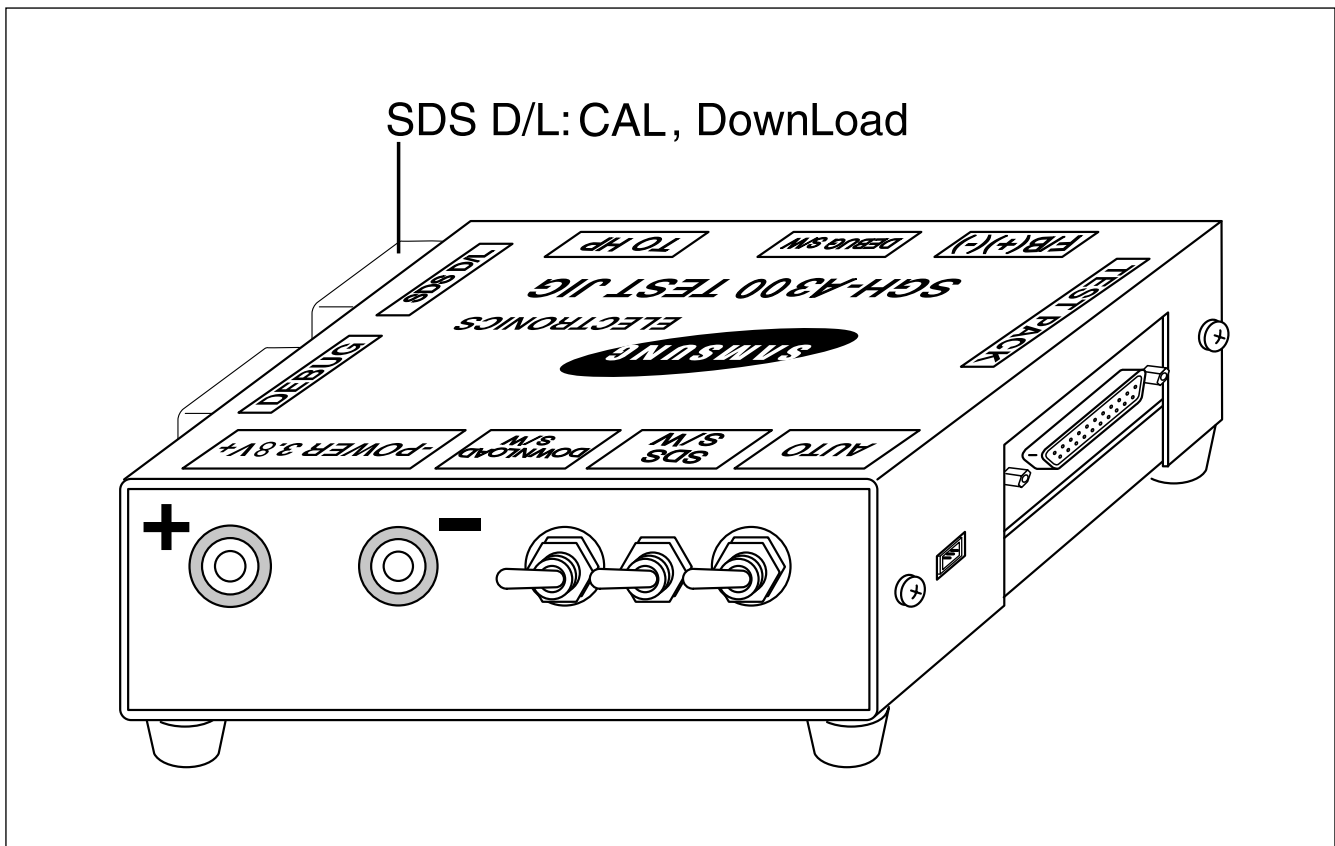
1-5 SGH-A400 Cigarette Lighter Adaptor



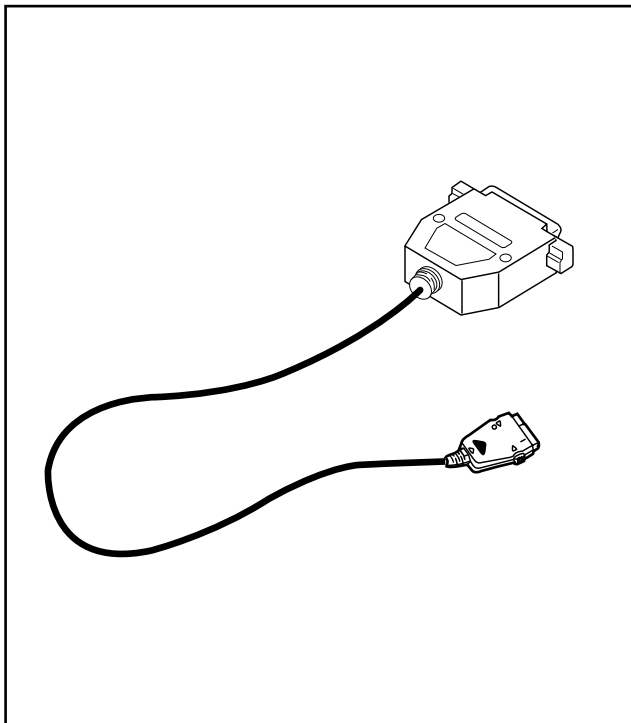
1-6 SGH-A400 Cigarette Lighter Adapter Parts List

DESCRIPTION	SEC CODE	REMARK
Cigarette Lighter Adapter Code	GH44-00195A	BLACK

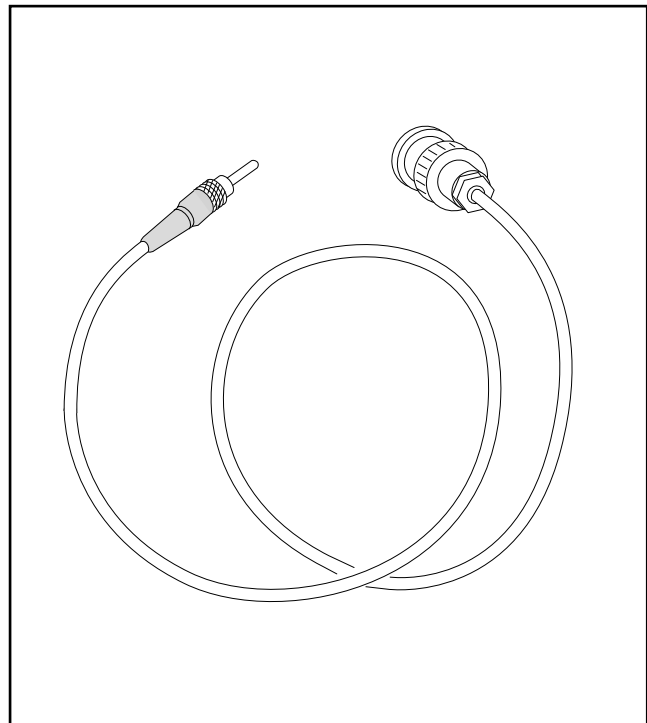
1-7 SGH-A400 Test Jig (GH80-00161A)



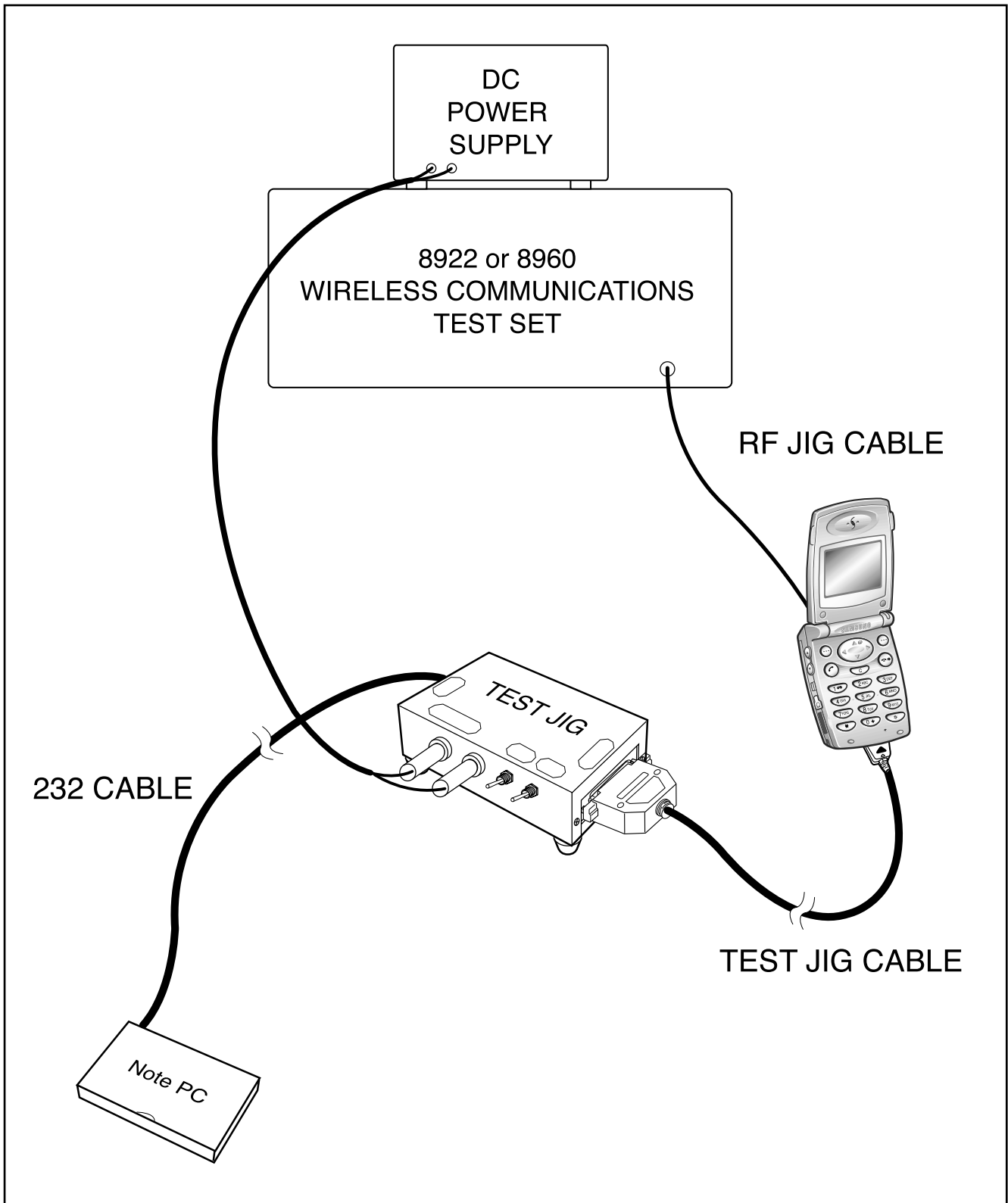
1-7-1 SGH-A400 Test Jig Cable (GH39-00096A)



1-7-2 SGH-A400 RF Jig Cable (GH39-00093A)



1-7-3 SGH-A400 Test Jig



2. SGH-A400 Electrical Parts List

Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
0	GH92-00985A			
1	4302-001119	BAT200	BATTERY-LI(2ND) 3 V, 0.1MAH, -, -, 3.1 V, -	
1	2203-000311	C100	C-CERAMIC, CHIP 0.12 nF, 5 %, 50 V, NP0, TP,	
1	2203-005065	C101	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000330	C102	C-CERAMIC, CHIP 0.012 nF, 5 %, 50 V, NP0, TP,	
1	2203-005571	C103	C-CERAMIC, CHIP 10000 nF, +80-20 %, 6.3 V, Y5 V,	
1	2203-000359	C104	C-CERAMIC, CHIP 0.15 nF, 5 %, 50 V, NP0, TP,	
1	2203-000233	C106	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C107	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2404-001151	C108	C-TA, CHIP 33 uF, 20 %, 6.3 V, LZ, TP, 3216	
1	2203-005571	C109	C-CERAMIC, CHIP 10000 nF, +80-20 %, 6.3 V, Y5 V,	
1	2203-000278	C110	C-CERAMIC, CHIP 0.01 nF, 0.5 pF, 50 V, NP0, TP,	
1	2203-000628	C111	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-001432	C112	C-CERAMIC, CHIP 47 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-005158	C113	C-CERAMIC, CHIP 0.0022 nF, 0.25pF, 50 V, NP0, TP,	
1	2203-005061	C114	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-001432	C115	C-CERAMIC, CHIP 47 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-000628	C116	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C117	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-005571	C118	C-CERAMIC, CHIP 10000 nF, +80-20 %, 6.3 V, Y5 V,	
1	2203-005061	C119	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-005061	C120	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-001432	C121	C-CERAMIC, CHIP 47 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2404-001105	C200	C-TA, CHIP 10 uF, 20 %, 6.3 V, GP, TP, 2012	
1	2203-005061	C201	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-005509	C202	C-CERAMIC, CHIP 330 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000359	C203	C-CERAMIC, CHIP 0.15 nF, 5 %, 50 V, NP0, TP,	
1	2203-000359	C204	C-CERAMIC, CHIP 0.15 nF, 5 %, 50 V, NP0, TP,	
1	2203-005061	C205	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-000254	C206	C-CERAMIC, CHIP 10 nF, 10 %, 16 V, X7R, TP, -	
1	2203-000679	C207	C-CERAMIC, CHIP 0.027 nF, 5 %, 50 V, NP0, TP,	
1	2404-001017	C208	C-TA, CHIP 1 uF, 20 %, 10 V, GP, TP, 2012, 2, 0	
1	2203-000679	C209	C-CERAMIC, CHIP 0.027 nF, 5 %, 50 V, NP0, TP,	
1	2203-005065	C210	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000359	C211	C-CERAMIC, CHIP 0.15 nF, 5 %, 50 V, NP0, TP,	

Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
1	2203-005509	C212	C-CERAMIC, CHIP 330 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-005061	C213	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-005061	C214	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-005061	C280	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-000233	C300	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-000233	C301	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-005053	C302	C-CERAMIC, CHIP 0.0039 nF, 0.25 pF, 50 V, NP0, TP,	
1	2203-005053	C303	C-CERAMIC, CHIP 0.0039 nF, 0.25 pF, 50 V, NP0, TP,	
1	2203-005446	C304	C-CERAMIC, CHIP 0.0027 nF, 0.1pF, 50 V, NP0, TP,	
1	2404-001234	C305	C-TA, CHIP 68 uF, 20 %, 6.3 V, -, TP, 3.3x2.7x1.7mm	
1	2203-005061	C306	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-000438	C308	C-CERAMIC, CHIP 1 nF, 10 %, 50 V, X7R, TP, -	
1	2203-005053	C309	C-CERAMIC, CHIP 0.0039 nF, 0.25 pF, 50 V, NP0, TP,	
1	2203-000628	C310	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-000628	C311	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2301-001230	C312	C-FILM, CHIP 10 nF, 5 %, 16 V, TP, 2012, -	
1	2404-001105	C313	C-TA, CHIP 10 uF, 20 %, 6.3 V, GP, TP, 2012	
1	2203-000940	C314	C-CERAMIC, CHIP 470 pF, 10 %, 50 V, X7R, TP, -	
1	2203-000812	C315	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000254	C316	C-CERAMIC, CHIP 10 nF, 10 %, 16 V, X7R, TP, -	
1	2203-000254	C317	C-CERAMIC, CHIP 10 nF, 10 %, 16 V, X7R, TP, -	
1	2203-000836	C318	C-CERAMIC, CHIP 390 pF, 10 %, 50 V, X7R, TP, -	
1	2203-005664	C319	C-CERAMIC, CHIP 4700 nF, 10 %, 6.3 V, X5R, TP, 2012	
1	2203-000812	C320	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000438	C321	C-CERAMIC, CHIP 1 nF, 10 %, 50 V, X7R, TP, -	
1	2203-000278	C322	C-CERAMIC, CHIP 0.01 nF, 0.5 pF, 50 V, NP0, TP,	
1	2203-005446	C323	C-CERAMIC, CHIP 0.0027 nF, 0.1pF, 50 V, NP0, TP,	
1	2203-000278	C324	C-CERAMIC, CHIP 0.01 nF, 0.5 pF, 50 V, NP0, TP,	
1	2203-000254	C325	C-CERAMIC, CHIP 10 nF, 10 %, 16 V, X7R, TP, -	
1	2203-000425	C326	C-CERAMIC, CHIP 0.018 nF, 5 %, 50 V, NP0, TP,	
1	2203-000425	C327	C-CERAMIC, CHIP 0.018 nF, 5 %, 50 V, NP0, TP,	
1	2203-005065	C328	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000940	C329	C-CERAMIC, CHIP 470 pF, 10 %, 50 V, X7R, TP, -	
1	2203-000330	C330	C-CERAMIC, CHIP 0.012 nF, 5 %, 50 V, NP0, TP,	
1	2203-000836	C331	C-CERAMIC, CHIP 390 pF, 10 %, 50 V, X7R, TP, -	
1	2203-005481	C332	C-CERAMIC, CHIP 47 nF, 10 %, 10 V, X7R, TP, -	
1	2203-005664	C333	C-CERAMIC, CHIP 4700 nF, 10 %, 6.3 V, X5R, TP, 2012	

Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
1	2203-000386	C334	C-CERAMIC, CHIP 0.015 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C335	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2301-001230	C336	C-FILM, CHIP 10 nF, 5 %, 16 V, TP, 2012, -	
1	2203-005158	C337	C-CERAMIC, CHIP 0.0022 nF, 0.25pF, 50 V, NP0, TP,	
1	2203-005158	C338	C-CERAMIC, CHIP 0.0022 nF, 0.25pF, 50 V, NP0, TP,	
1	2203-000812	C339	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C340	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-002443	C341	C-CERAMIC, CHIP 0.33 nF, 10 %, 50 V, X7R, TP,	
1	2203-002443	C342	C-CERAMIC, CHIP 0.33 nF, 10 %, 50 V, X7R, TP,	
1	2203-002443	C343	C-CERAMIC, CHIP 0.33 nF, 10 %, 50 V, X7R, TP,	
1	2203-002443	C344	C-CERAMIC, CHIP 0.33 nF, 10 %, 50 V, X7R, TP,	
1	2203-000254	C345	C-CERAMIC, CHIP 10 nF, 10 %, 16 V, X7R, TP, -	
1	2203-000254	C346	C-CERAMIC, CHIP 10 nF, 10 %, 16 V, X7R, TP, -	
1	2203-005061	C400	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-000233	C401	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-005061	C402	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-005065	C403	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-005065	C404	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-005664	C405	C-CERAMIC, CHIP 4700 nF, 10 %, 6.3 V, X5R, TP, 2012	
1	2203-005664	C406	C-CERAMIC, CHIP 4700 nF, 10 %, 6.3 V, X5R, TP, 2012	
1	2203-005065	C408	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000995	C409	C-CERAMIC, CHIP 0.047 nF, 5 %, 50 V, NP0, TP,	
1	2203-000359	C410	C-CERAMIC, CHIP 0.15 nF, 5 %, 50 V, NP0, TP,	
1	2203-000359	C411	C-CERAMIC, CHIP 0.15 nF, 5 %, 50 V, NP0, TP,	
1	2203-000254	C412	C-CERAMIC, CHIP 10 nF, 10 %, 16 V, X7R, TP, -	
1	2203-005065	C413	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000233	C414	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2404-001239	C415	C-TA, CHIP 100 uF, 20 %, 6.3 V, WT, TP, 3.3x2.7x	
1	2203-005562	C416	C-CERAMIC, CHIP 10000 nF, +80-20 %, 10 V, Y5 V,	
1	2203-005061	C417	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-000940	C418	C-CERAMIC, CHIP 470 pF, 10 %, 50 V, X7R, TP, -	
1	2203-000812	C419	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-005796	C420	C-CERAMIC, CHIP 2200 nF, 10 %, 10 V, X7R, TP, 2012	
1	2203-000278	C421	C-CERAMIC, CHIP 0.01 nF, 0.5 pF, 50 V, NP0, TP,	
1	2203-000233	C500	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-000438	C501	C-CERAMIC, CHIP 1 nF, 10 %, 50 V, X7R, TP, -	
1	2203-000812	C503	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	

Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
1	2203-000233	C504	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-000233	C505	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-000278	C506	C-CERAMIC, CHIP 0.01 nF, 0.5 pF, 50 V, NP0, TP,	
1	2203-005056	C507	C-CERAMIC, CHIP 0.0068 nF, 0.25 pF, 50 V, NP0, TP,	
1	2203-000233	C508	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-000233	C509	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-005234	C511	C-CERAMIC, CHIP 0.0012 nF, 0.25pF, 50 V, NP0, TP,	
1	2203-000628	C512	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-000628	C513	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-000278	C515	C-CERAMIC, CHIP 0.01 nF, 0.5 pF, 50 V, NP0, TP,	
1	2203-000628	C516	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-000628	C517	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C518	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C519	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000278	C520	C-CERAMIC, CHIP 0.01 nF, 0.5 pF, 50 V, NP0, TP,	
1	2404-001239	C521	C-TA, CHIP 100 uF, 20 %, 6.3 V, WT, TP, 3.3x2.7x	
1	2203-005148	C522	C-CERAMIC, CHIP 100 nF, 10 %, 16 V, X7R, TP, 1608,	
1	2203-000628	C525	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-000233	C526	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C527	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000233	C530	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-000233	C532	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C533	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-005061	C534	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-000278	C535	C-CERAMIC, CHIP 0.01 nF, 0.5 pF, 50 V, NP0, TP,	
1	2203-000628	C537	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-000438	C538	C-CERAMIC, CHIP 1 nF, 10 %, 50 V, X7R, TP, -	
1	2203-000254	C539	C-CERAMIC, CHIP 10 nF, 10 %, 16 V, X7R, TP, -	
1	2203-000696	C540	C-CERAMIC, CHIP 0.002 nF, 0.25 pF, 50 V, NP0, TP,	
1	2203-000466	C541	C-CERAMIC, CHIP 0.001 nF, 0.25 pF, 50 V, NP0, TP,	
1	2203-000679	C542	C-CERAMIC, CHIP 0.027 nF, 5 %, 50 V, NP0, TP,	
1	2203-000233	C543	C-CERAMIC, CHIP 0.1 nF, 5 %, 50 V, NP0, TP,	
1	2301-001475	C544	C-FILM, CHIP 3.9 nF, 5 %, 16 V, TP, 2.0 x 1.25 x 0.9mm	
1	2203-000995	C545	C-CERAMIC, CHIP 0.047 nF, 5 %, 50 V, NP0, TP,	
1	2203-000628	C546	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-000278	C547	C-CERAMIC, CHIP 0.01 nF, 0.5 pF, 50 V, NP0, TP,	
1	2203-001432	C548	C-CERAMIC, CHIP 47 nF, +80-20 %, 16 V, Y5 V, TP,	

Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
1	2203-005065	C549	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2007-007771	C550	R-CHIP 0 ohm, 5 %, 1/16 W, DA, TP,	
1	2203-005509	C551	C-CERAMIC, CHIP 330 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000725	C552	C-CERAMIC, CHIP 3.9 nF, 10 %, 50 V, X7R, TP, -	
1	2203-005509	C553	C-CERAMIC, CHIP 330 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000812	C600	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000628	C601	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2404-001151	C602	C-TA, CHIP 33 uF, 20 %, 6.3 V, LZ, TP, 3216	
1	2203-005148	C603	C-CERAMIC, CHIP 100 nF, 10 %, 16 V, X7R, TP, 1608,	
1	2203-000812	C604	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000628	C605	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-005367	C606	C-CERAMIC, CHIP 6800 nF, +80-20 %, 25 V, Y5 V, TP,	
1	2203-000812	C608	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C609	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-002968	C610	C-CERAMIC, CHIP 0.051 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C611	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2404-001151	C613	C-TA, CHIP 33 uF, 20 %, 6.3 V, LZ, TP, 3216	
1	2203-000812	C614	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-005065	C615	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000812	C616	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-005061	C617	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-005061	C618	C-CERAMIC, CHIP 100 nF, +80-20 %, 16 V, Y5 V, TP,	
1	2203-000628	C620	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2203-005065	C621	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-005065	C622	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000628	C625	C-CERAMIC, CHIP 0.022 nF, 5 %, 50 V, NP0, TP,	
1	2404-001239	C627	C-TA, CHIP 100 uF, 20 %, 6.3 V, WT, TP, 3.3x2.7x	
1	2203-005065	C630	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-001412	C631	C-CERAMIC, CHIP 0.03 nF, 5 %, 50 V, NP0, TP,	
1	2203-001412	C632	C-CERAMIC, CHIP 0.03 nF, 5 %, 50 V, NP0, TP,	
1	2404-001105	C634	C-TA, CHIP 10 uF, 20 %, 6.3 V, GP, TP, 2012	
1	2404-001105	C635	C-TA, CHIP 10 uF, 20 %, 6.3 V, GP, TP, 2012	
1	2203-000812	C636	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C637	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C638	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C639	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C640	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	

Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
1	2203-000812	C641	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C642	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C643	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C644	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C647	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-005065	C651	C-CERAMIC, CHIP 1000 nF, +80-20 %, 10 V, Y5 V, TP,	
1	2203-000359	C652	C-CERAMIC, CHIP 0.15 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C657	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000386	C658	C-CERAMIC, CHIP 0.015 nF, 5 %, 50 V, NP0, TP,	
1	2203-000386	C659	C-CERAMIC, CHIP 0.015 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C660	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C662	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C663	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C664	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C665	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C666	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000812	C667	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	2203-000438	C670	C-CERAMIC, CHIP 1 nF, 10 %, 50 V, X7R, TP, -	
1	2203-000812	C671	C-CERAMIC, CHIP 0.033 nF, 5 %, 50 V, NP0, TP,	
1	3709-001190	CN400	CONNECTOR-CARD EDGE 6P, 2.54MM, SMD, -	
1	3705-001178	CN500	CONNECTOR-COAXIAL SMC, JACK, 100 Mohm,	
1	3722-001530	CN600	JACK-PHONE 5P, 2.6PI, A uF, BLK, -	
1	3710-001585	CN601	CONNECTOR-SOCKET 20P, 2R, 0.5mm, SMD-S, A uF	
1	3711-004623	CN602	CONNECTOR-HEADER BOX, 20P, 2R, 0.5mm,	
1	3710-001653	CN604	CONNECTOR-SOCKET 18P, 1R, 0.5mm, SMD-A, A uF	
1	0407-000115	D200	DIODE-ARRAY DAN202U, 80 V, 100 mA, CA2-3, SC-70,	
1	0401-001033	D201	DIODE-SWITCHING MCL4154, 25 V, 200 mA, M-MELF,	
1	0405-001093	D300	DIODE-VARACTOR MA4ST230, 12 V, -, SOT-23, TP	
1	0401-001033	D402	DIODE-SWITCHING MCL4154, 25 V, 200 mA, M-MELF,	
1	0402-001463	D500	DIODE-RECTIFIER HSMS-2825, 15 V, 1 A, SOT-143,	
1	0407-000115	D601	DIODE-ARRAY DAN202U, 80 V, 100 mA, CA2-3, SC-70,	
1	2903-001211	F300	FILTER-CERAMIC BP, 14.6MHz, 300KHz, 6dB, 1dB,	
1	2904-001165	F301	FILTER-SAW 400MHZ, .28MHZ, +-70KHZ, TP, 6.5DB, -	
1	2904-001096	F500	FILTER-SAW 1.8425GHz, 75MHz, +-37.5MHz/2.5dB,	
1	2904-001281	F501	FILTER-SAW 947.5MHz, 25MHz, +-12.5MHz/1.4dB,	
1	2007-007771	F502	R-CHIP 0 ohm, 5 %, 1/16 W, DA, TP,	
1	2703-000310	L100	INDUCTOR-SMD 1.8 uH, 10 %, 0.8x1.6x0.8mm	

Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
1	2703-001543	L300	INDUCTOR-SMD 33 nH, 5 %, 1.8x1.12x1.02mm	
1	2703-001513	L301	INDUCTOR-SMD 100 nH, 5 %, 1.8x1.12x1.02mm	
1	2703-002214	L302	INDUCTOR-SMD 8.2 nH, 5 %, 1.6X0.8X0.8MM	
1	2703-001513	L303	INDUCTOR-SMD 100 nH, 5 %, 1.8x1.12x1.02mm	
1	2703-001545	L304	INDUCTOR-SMD 47 nH, 5 %, 1.8x1.12x1.02mm	
1	2703-001543	L305	INDUCTOR-SMD 33 nH, 5 %, 1.8x1.12x1.02mm	
1	2703-001547	L306	INDUCTOR-SMD 10 nH, 5 %, 1.8x1.12x1.02mm	
1	2703-001547	L307	INDUCTOR-SMD 10 nH, 5 %, 1.8x1.12x1.02mm	
1	2703-001547	L308	INDUCTOR-SMD 10 nH, 5 %, 1.8x1.12x1.02mm	
1	2703-002218	L400	INDUCTOR-SMD 100 uH, 20 %, 3.3X1.5X0.8MM	
1	2703-001954	L501	INDUCTOR-SMD 2.7 nH, 0.3 nH, 1.0x0.5x0.5mm	
1	2703-002213	L502	INDUCTOR-SMD 3.3 nH, 5 %, 1.6X0.8X0.8MM	
1	2703-002212	L503	INDUCTOR-SMD 1.6 nH, 5 %, 1.6X0.8X0.8MM	
1	2703-001514	L504	INDUCTOR-SMD 68 nH, 5 %, 1.8x1.12x1.02mm	
1	2703-002213	L505	INDUCTOR-SMD 3.3 nH, 5 %, 1.6X0.8X0.8MM	
1	2703-002284	L506	INDUCTOR-SMD 8.2 nH, ± 0.5 nH, 1.6X0.8X0.8MM	
1	2703-001514	L507	INDUCTOR-SMD 68 nH, 5 %, 1.8x1.12x1.02mm	
1	2703-000175	L600	INDUCTOR-SMD 270 nH, 10 %, 0.8x1.6x0.8mm	
1	3301-001208	L602	CORE-FERRITE BEAD AB, 1.6x0.8x0.8mm, -, -	
1	2703-002298	L603	INDUCTOR-SMD 8.2 nH, ± 10 %, 1.6X0.8X0.8MM	
1	4709-001144	LAM1	COUPLER-DIRECTION 897.5/1747.5MHZ,	
1	0604-001146	LED600	PHOTO-IRDA -, 875NM, 500 mW, 30DEG, TP	
1	2801-003695	OSC100	CRYSTAL-SMD 19.5MHz, 10ppm, 28-ABK, 10.2pF, 20	
1	2801-003747	OSC200	CRYSTAL-SMD .032768MHZ, 30PPM, 28-ACM, 9PF,	
1	2806-001191	OSC300	OSCILLATOR-VCO 1258-1360MHZ, -, 50 ohm, TP,	
1	0501-000162	Q200	TR-SMALL SIGNAL 2SA1576, PNP, 200 mW, SOT-323,	
1	0504-000168	Q201	TR-DIGITAL RN1104, NPN, 100 mW, 47K/47K, SSM, TP	
1	0501-002357	Q400	TR-SMALL SIGNAL ZUMT619, NPN, 500 mW, SOT-323,	
1	0501-002202	Q401	TR-SMALL SIGNAL MMBT2222AWT1, NPN, 150 mW,	
1	0504-001012	Q500	TR-DIGITAL DTC114YE, NPN, 150 mW, 10K/47K,	
1	0504-001012	Q501	TR-DIGITAL DTC114YE, NPN, 150 mW, 10K/47K,	
1	0504-001042	Q502	TR-DIGITAL BCR10PN, NPN/PNP, 250 mW, 10K/10K,	
1	0504-000168	Q600	TR-DIGITAL RN1104, NPN, 100 mW, 47K/47K, SSM, TP	
1	0501-002346	Q601	TR-SMALL SIGNAL 2SB1427, PNP, 500 mW, SOT-89,	
1	0501-002356	Q603	TR-SMALL SIGNAL -, NPN, 250 mW, SOT-323, TP,	
1	0504-001012	Q604	TR-DIGITAL DTC114YE, NPN, 150 mW, 10K/47K,	
1	0504-001012	Q605	TR-DIGITAL DTC114YE, NPN, 150 mW, 10K/47K,	

Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
1	2007-000140	R100	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000140	R101	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-001313	R103	R-CHIP 330 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007092	R104	R-CHIP 1.1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000775	R105	R-CHIP 33 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-007468	R106	R-CHIP 121 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-007092	R107	R-CHIP 1.1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000137	R207	R-CHIP 2 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R209	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R211	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R212	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R213	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R214	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R215	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000138	R216	R-CHIP 100 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007771	R217	R-CHIP 0 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000170	R218	R-CHIP 1 Mohm, 5 %, 1/16 W, DA, TP,	
1	2007-000140	R219	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-007771	R280	R-CHIP 0 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-001288	R300	R-CHIP 18 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-001288	R301	R-CHIP 18 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-001323	R302	R-CHIP 3 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000172	R303	R-CHIP 10 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000172	R304	R-CHIP 10 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-001288	R305	R-CHIP 18 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-001323	R306	R-CHIP 3 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-008213	R307	R-CHIP 4.3 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-007001	R308	R-CHIP 3.9 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000172	R309	R-CHIP 10 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-001298	R310	R-CHIP 51 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000172	R311	R-CHIP 10 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000146	R312	R-CHIP 6.8 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000138	R313	R-CHIP 100 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007136	R314	R-CHIP 4.7 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-000172	R315	R-CHIP 10 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-001298	R316	R-CHIP 51 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000172	R317	R-CHIP 10 ohm, 5 %, 1/16 W, DA, TP,	

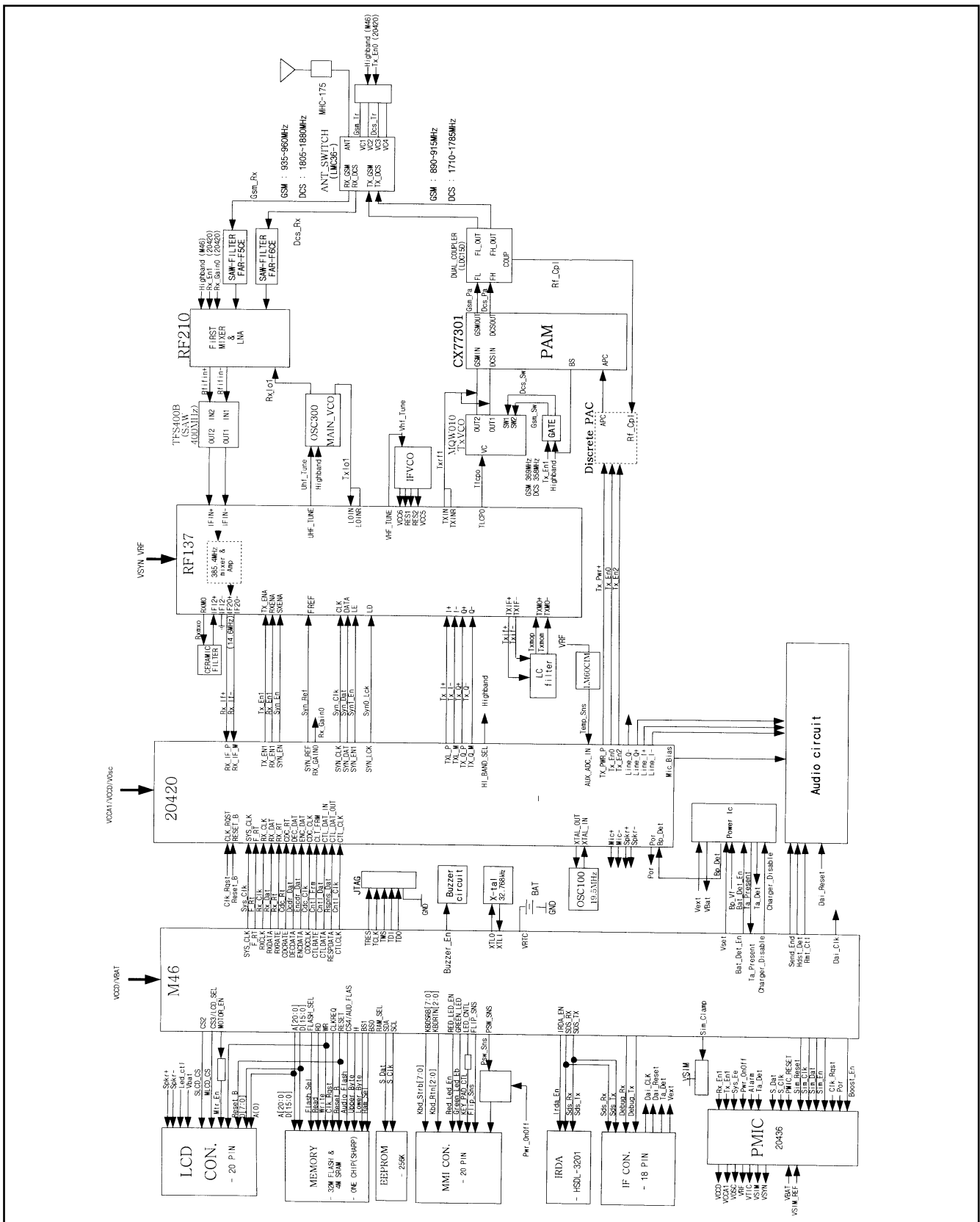
Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
1	2007-000172	R318	R-CHIP 10 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007771	R403	R-CHIP 0 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000162	R404	R-CHIP 100 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000143	R407	R-CHIP 4.7 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000143	R409	R-CHIP 4.7 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000138	R410	R-CHIP 100 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007156	R411	R-CHIP 1 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000138	R412	R-CHIP 100 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000141	R413	R-CHIP 2.2 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000157	R414	R-CHIP 47 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000140	R500	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000140	R502	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R503	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R505	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-001298	R506	R-CHIP 51 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007193	R507	R-CHIP 5.1 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-001298	R508	R-CHIP 51 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007193	R509	R-CHIP 5.1 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R510	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000137	R511	R-CHIP 2 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-007142	R512	R-CHIP 10 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-007312	R513	R-CHIP 20 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-001308	R514	R-CHIP 200 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007142	R515	R-CHIP 10 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-007142	R516	R-CHIP 10 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-007142	R517	R-CHIP 10 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-001305	R518	R-CHIP 120 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007142	R519	R-CHIP 10 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-007142	R520	R-CHIP 10 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-007142	R521	R-CHIP 10 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-000137	R522	R-CHIP 2 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-001306	R523	R-CHIP 150 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-001308	R524	R-CHIP 200 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000170	R525	R-CHIP 1 Mohm, 5 %, 1/16 W, DA, TP,	
1	2007-007771	R526	R-CHIP 0 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007095	R527	R-CHIP 390 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000139	R528	R-CHIP 220 ohm, 5 %, 1/16 W, DA, TP,	

Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
1	2007-000140	R529	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R530	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000145	R531	R-CHIP 6.2 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-008117	R532	R-CHIP 2.7 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-000162	R533	R-CHIP 100 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000140	R601	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-001301	R604	R-CHIP 68 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-000242	R605	R-CHIP 1.5 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000165	R607	R-CHIP 200 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000162	R609	R-CHIP 100 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R610	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000142	R611	R-CHIP 2.7 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000162	R612	R-CHIP 100 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000140	R613	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000140	R616	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000154	R619	R-CHIP 24 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-001119	R620	R-CHIP 680 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-001339	R621	R-CHIP 180 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-001306	R635	R-CHIP 150 ohm, 5 %, 1/16 W, DA, TP,	
1	2007-007316	R637	R-CHIP 3.3 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-000140	R638	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000140	R639	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000140	R640	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000162	R641	R-CHIP 100 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000140	R642	R-CHIP 1 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-007592	R643	R-CHIP 270 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-007875	R644	R-CHIP 160 kohm, 1 %, 1/16 W, DA, TP,	
1	2007-000152	R646	R-CHIP 20 kohm, 5 %, 1/16 W, DA, TP,	
1	2007-000148	R648	R-CHIP 10 kohm, 5 %, 1/16 W, DA, TP,	
1	1205-001708	U100	IC-CODEC 20420, BGA, 100P, -, PLASTIC, 2.7V, -, -	
1	0902-001231	U201	IC-MICROPROCESSOR 46, 16BIT, BGA, 180P, -,	
1	1203-001592	U202	IC-VOLTAGE REGULATOR 1015, SOT-23A-5, 5P,	
1	1205-001647	U300	IC-TRANSCIEVER RF137, TQFP, 48P, 275MIL,	
1	0801-002641	U330	IC-CMOS LOGIC 7WZ08, 2-INPUT AND GATE, US8,	
1	1203-001703	U400	IC-VOLTAGE REGULATOR 20436, TQFP, 48P, 275MIL, ,	
1	1203-002099	U401	IC-VOLTAGE REGULATOR 5245, SOT-23-5, 5P, 64MIL,	
1	0504-001042	U500	TR-DIGITAL BCR10PN, NPN/PNP, 250 mW, 10K/10K,	

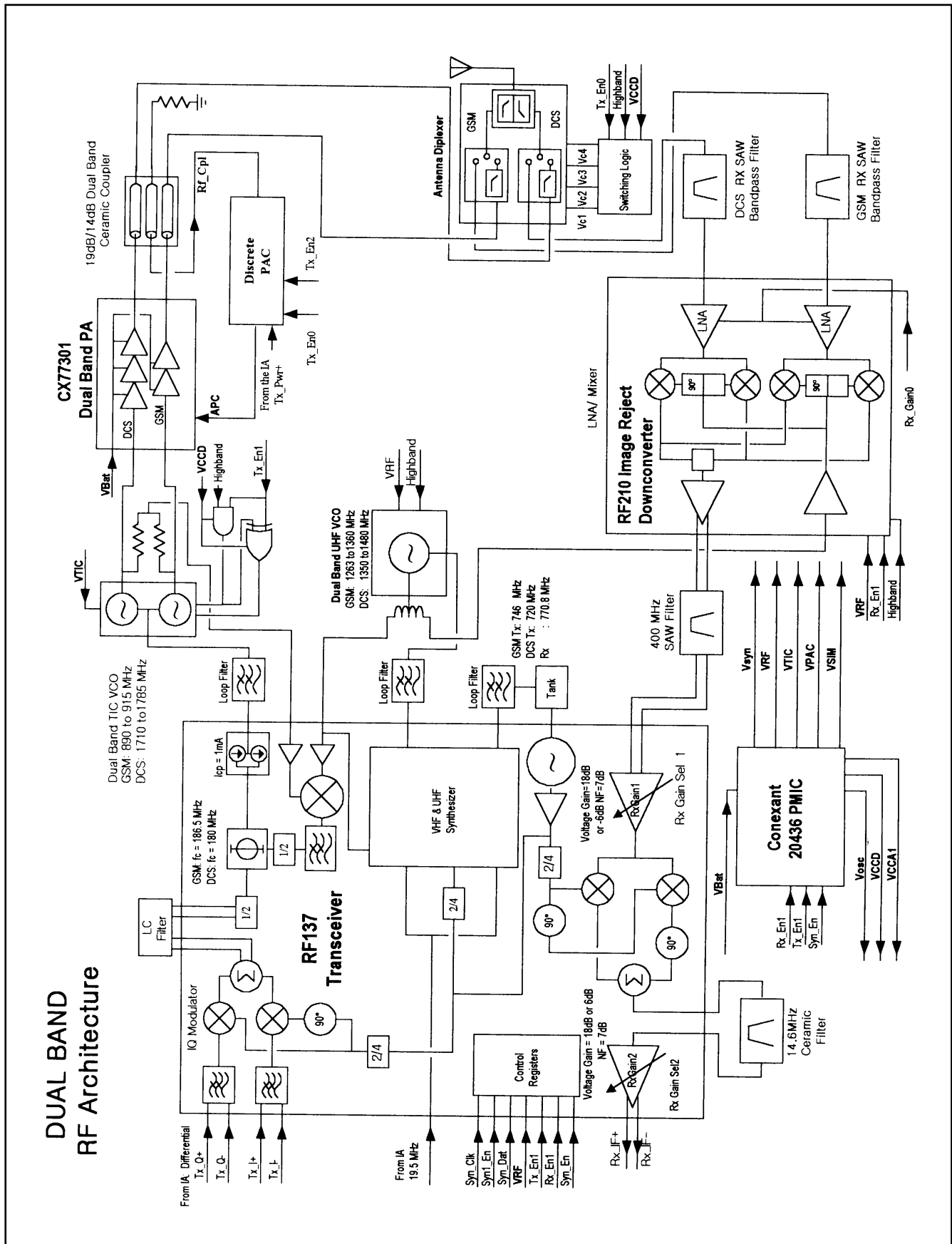
Level	SEC CODE	REFERENCE	DESCRIPTIONS	Remark
1	0504-001042	U501	TR-DIGITAL BCR10PN, NPN/PNP, 250 mW, 10K/10K,	
1	0504-001042	U502	TR-DIGITAL BCR10PN, NPN/PNP, 250m W, 10K/10K,	
1	0504-001012	U503	TR-DIGITAL DTC114YE, NPN, 150 mW, 10K/47K,	
1	2909-001152	U505	FILTER-DUPLEXER 942.5MHZ, 897.5MHZ, 1/1.2DB,	
1	2007-000137	U506	R-CHIP 2 kohm, 5 %, 1/16 W, DA, TP,	
1	1201-001697	U507	IC-IF/RF AMP RF210-51, TSSOP, 20P, 173MIL, -, -,	
1	0504-001042	U509	TR-DIGITAL BCR10PN, NPN/PNP, 250m W, 10K/10K,	
1	1201-001754	U510	IC-POWER AMP -, MCM, 16P, -, -, -, PLASTIC, 7V, -, -	
1	1209-001219	U511	IC-SENSOR LM60C, SOT-23, 3P, 115MIL, PLASTIC	
1	0801-002640	U512	IC-CMOS LOGIC 7WZ00, 2-INPUT NAND GATE, US8,	
1	2806-001192	U513	OSCILLATOR-VCO 902.5/1747.5MHZ, -, -, TP, 2.7 V,	
1	1106-001301	U514	IC-SRAM 1337, 262Kx16Bit, CSP, 72P, -, 85nS, 3V, -,	
1	1103-001147	U515	IC-EEPROM 24256, 256KBIT, SOP, 8P, 150MIL, -,	
1	0506-001052	U600	TR-ARRAY UMH9N, NPN, 2, 150 mW, SC-88, TP, 68-	
1	1201-001800	U602	IC-AUDIO AMP LM4900, MSOP, 8P, 118MIL, SINGLE, -,	
1	0504-001071	U603	TR-DIGITAL UMD9N, NPN/PNP, 150 mW, 4.7, UMT6, TP	
1	1201-001753	U605	IC-OP AMP -, MSOP, TP, 8P, 118MIL, DUAL, -,	
1	0506-001052	U8021	TR-ARRAY UMH9N, NPN, 2, 150 mW, SC-88, TP, 68-	
1	0406-001104	U8022	DIODE-TVS ESDA6V1-5W6, 6.1/-/7.2 V, 100 W,	
1	3711-004916	U8024	CONNECTOR-HEADER -, 3P, -, 2.5MM, SMD-A, -,	
1	2203-005509	U8028	C-CERAMIC, CHIP 330 nF, +80-20 %, 10 V, Y5 V, TP,	
1	1203-002127	U8031	IC-BATTERY 1734, SOT-23, 6P, 150MIL, PLASTIC,	
1	1405-001087	V600	VARISTOR 5.6 V, 20 A, 1x0.5x0.55mm, TP	
1	1405-001087	V601	VARISTOR 5.6 V, 20 A, 1x0.5x0.55mm, TP	
1	1405-001087	V605	VARISTOR 5.6 V, 20 A, 1x0.5x0.55mm, TP	
1	1405-001087	V615	VARISTOR 5.6 V, 20 A, 1x0.5x0.55mm, TP	
1	1405-001087	V616	VARISTOR 5.6 V, 20 A, 1x0.5x0.55mm, TP	
1	1405-001087	V618	VARISTOR 5.6 V, 20 A, 1x0.5x0.55mm, TP	
1	1405-001087	V619	VARISTOR 5.6 V, 20 A, 1x0.5x0.55mm, TP	
1	1405-001087	V620	VARISTOR 5.6 V, 20 A, 1x0.5x0.55mm, TP	
1	0404-001044	ZD400	DIODE-SCHOTTKY UPS5817, 20 V, 1 A, SMD, TP	
1	0404-000108	ZD401	DIODE-SCHOTTKY RB705D, 20 V, 30 mA, SOT-23, TP	
1	0404-000108	ZD402	DIODE-SCHOTTKY RB705D, 20 V, 30 mA, SOT-23, TP	
1	0406-001104	ZD602	DIODE-TVS ESDA6V1-5W6, 6.1/-/7.2 V, 100 W,	
1	0406-001104	ZD604	DIODE-TVS ESDA6V1-5W6, 6.1/-/7.2 V, 100 W,	
1	0406-001104	ZD605	DIODE-TVS ESDA6V1-5W6, 6.1/-/7.2 V, 100 W,	
1	GH41-00184A		PCB-SGHA400 SGH-A400, FR-4, 6L, -, 0.8T,	

3. SGH-A400 Block Diagrams

3-1 SGH-A400 Main Block Diagram

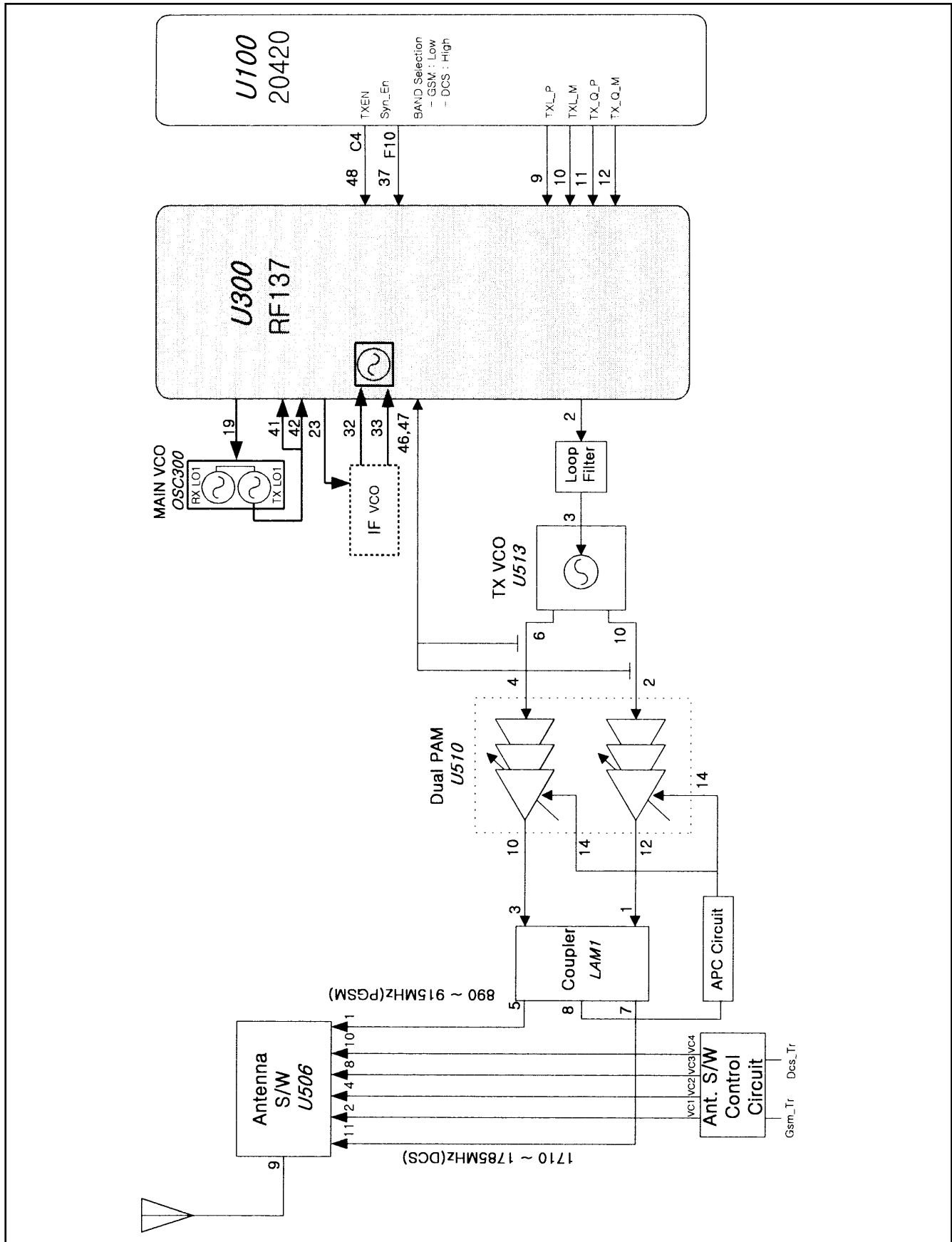


3-2 SGH-A400 Main RF Block Diagram



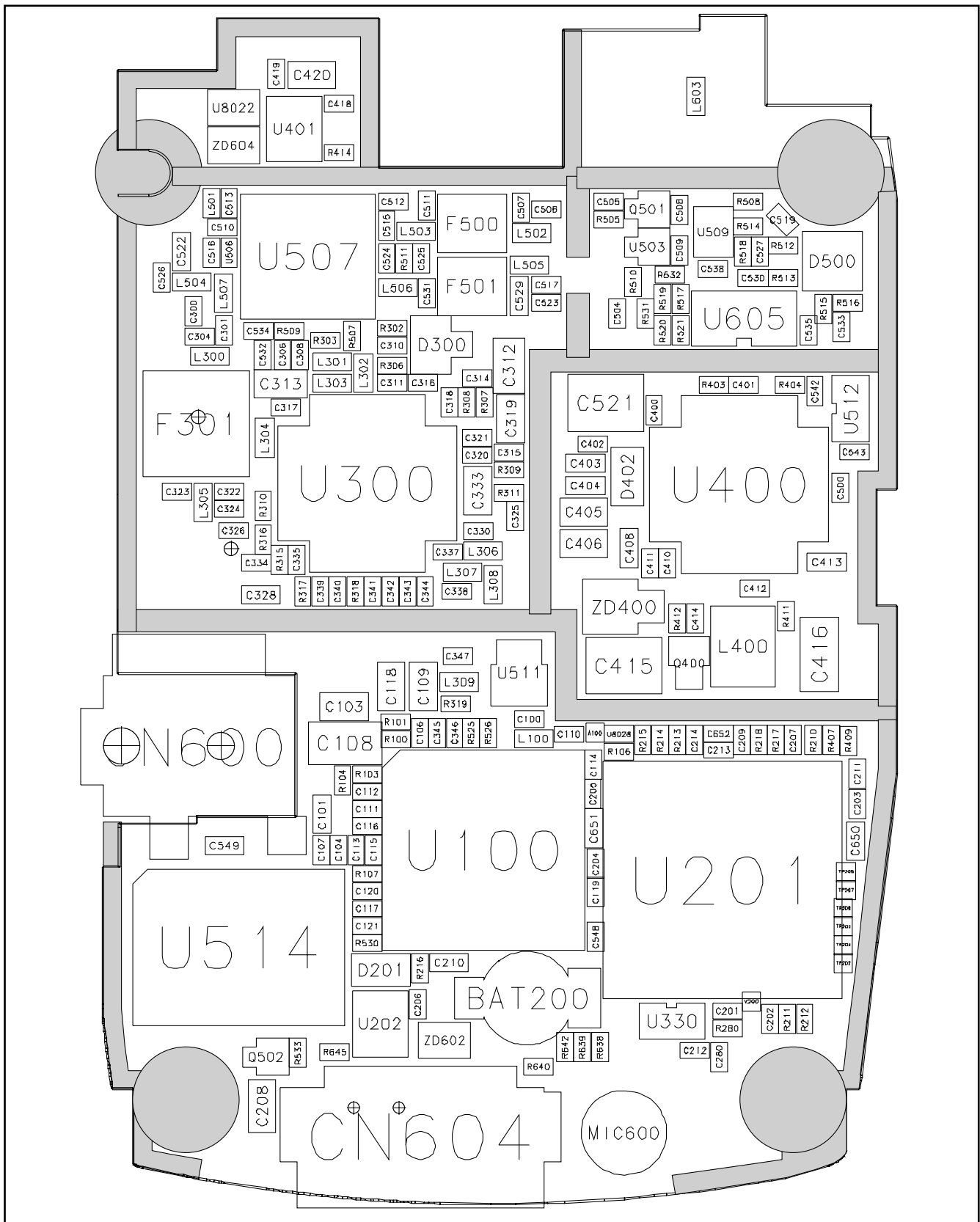


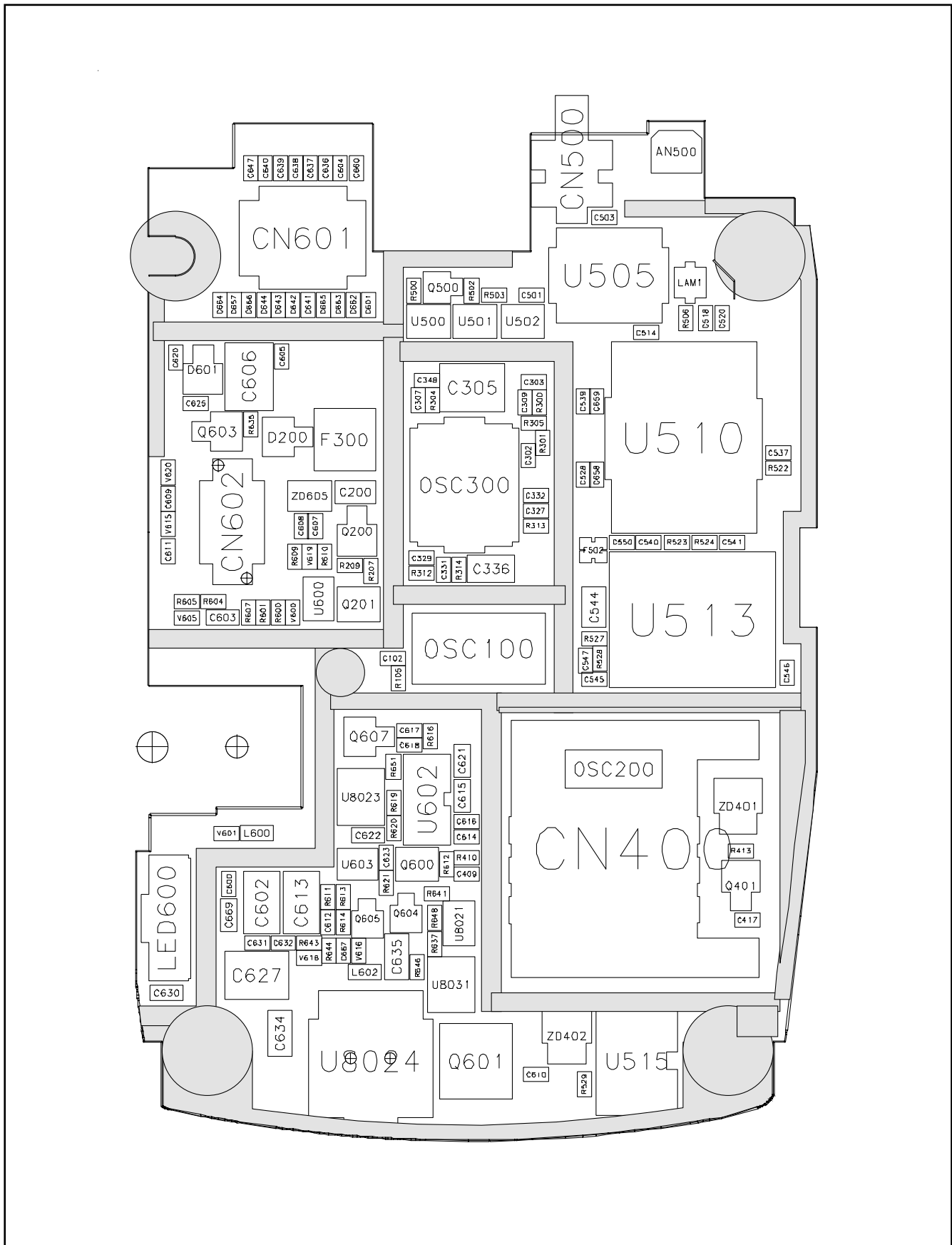
3-2-2 SGH-A400 RF Transmit Part Block Diagram



4. SGH-A400 PCB Diagrams

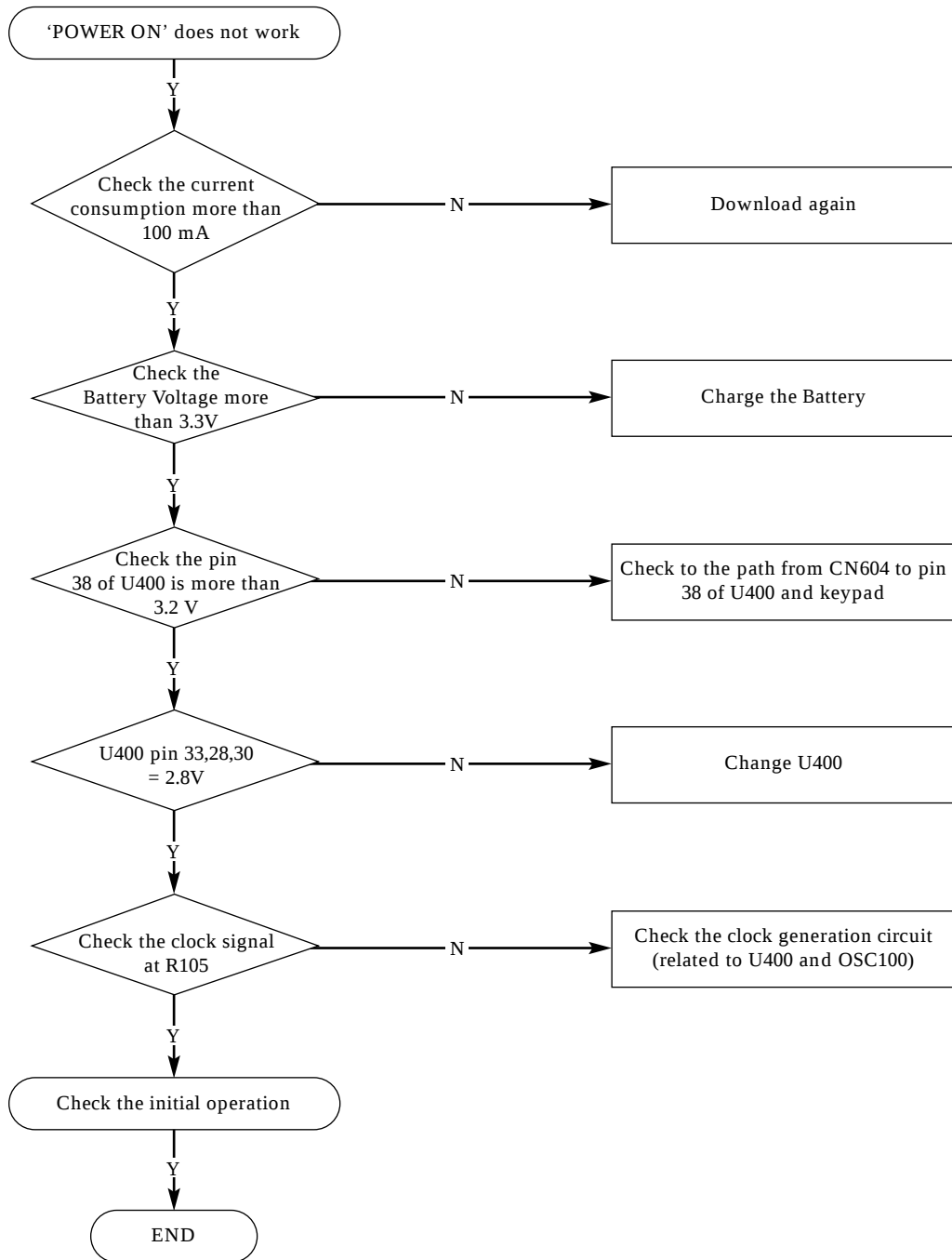
4-1 SGH-A400 Main PCB Top Diagram



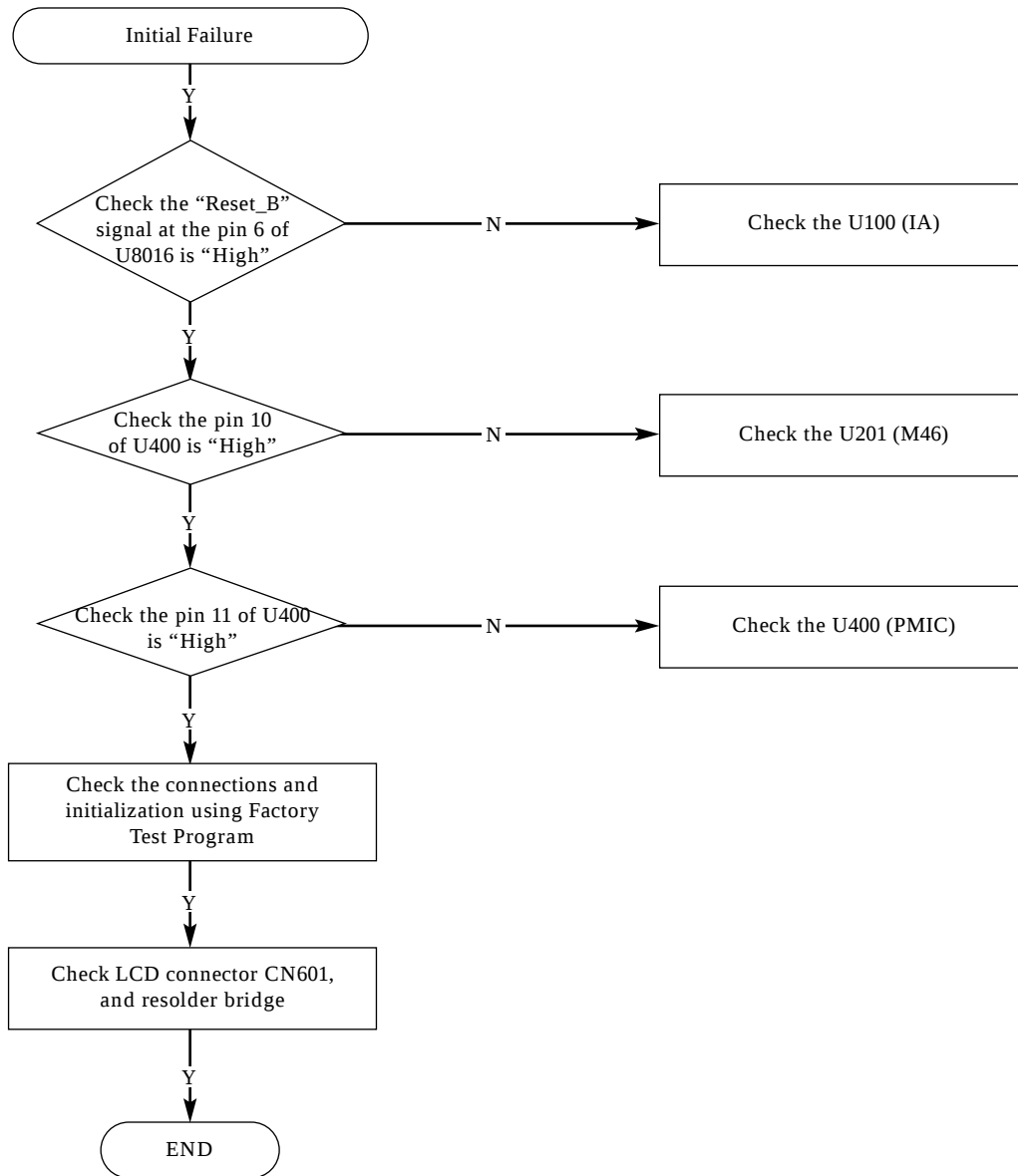


5.Flow Chart of Troubleshooting and Circuit Diagram

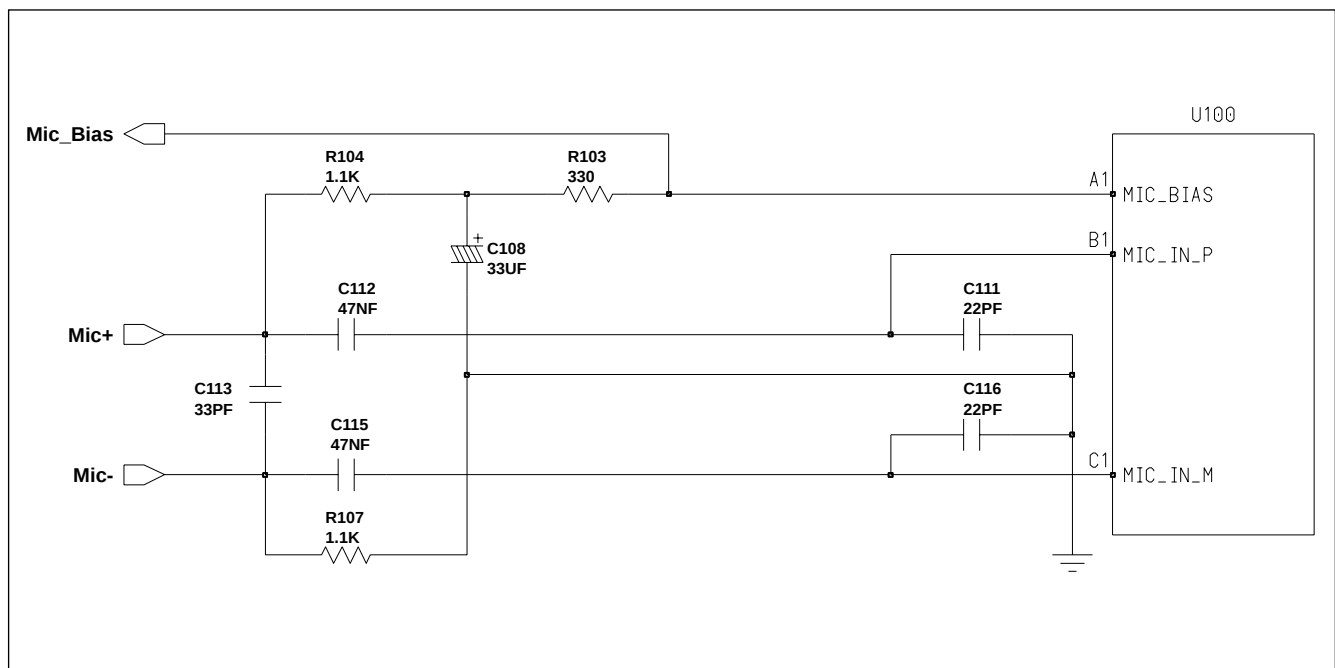
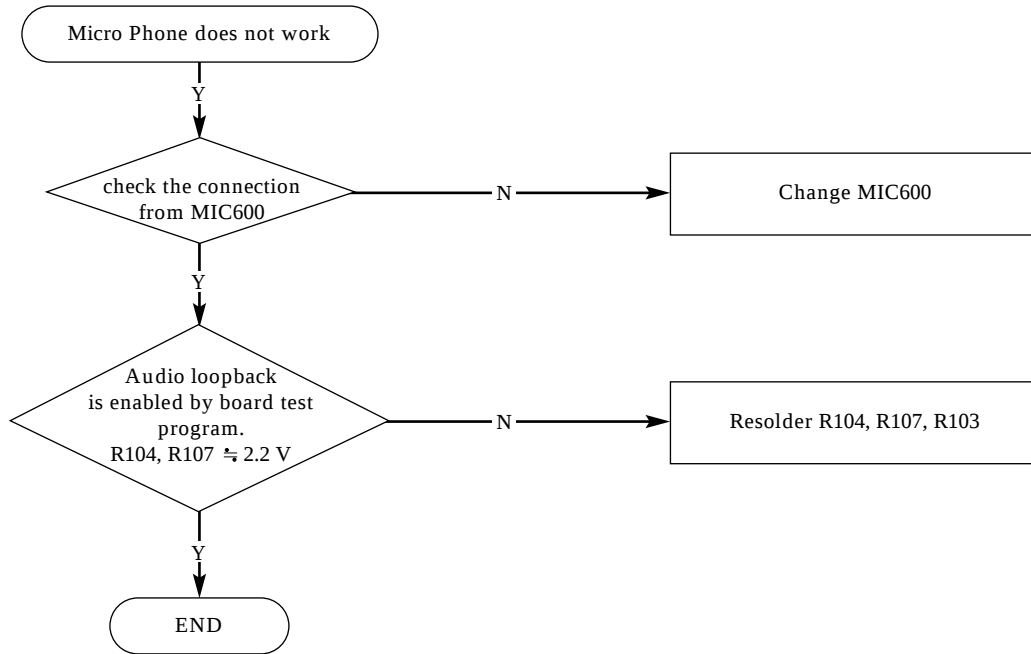
5-1 SGH-A400 Power ON



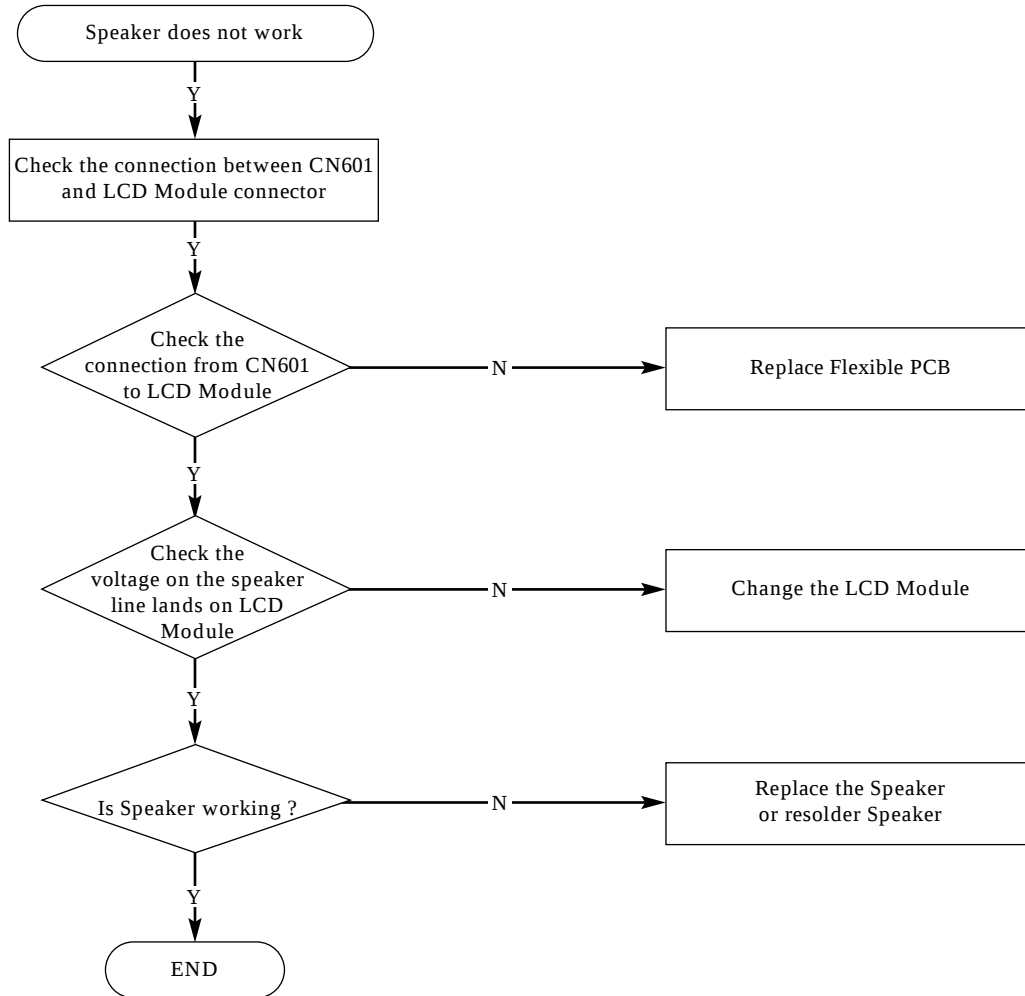
5-2 SGH-A400 Initial



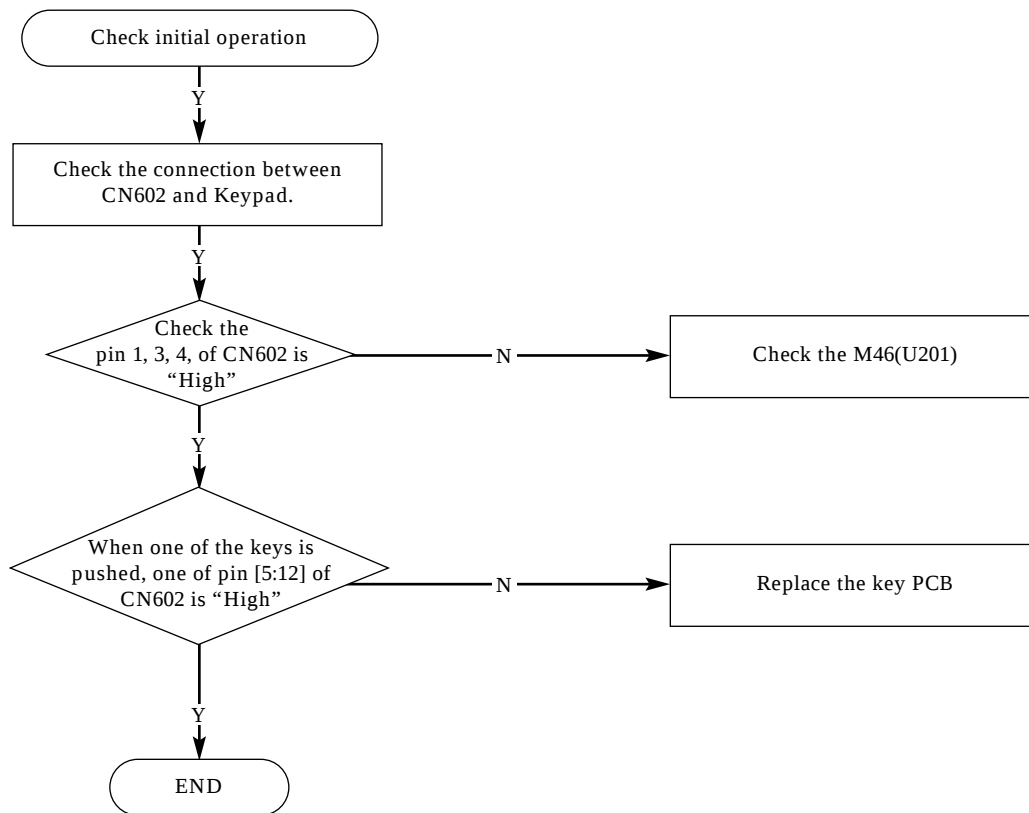
5-5 SGH-A400 Microphone Part



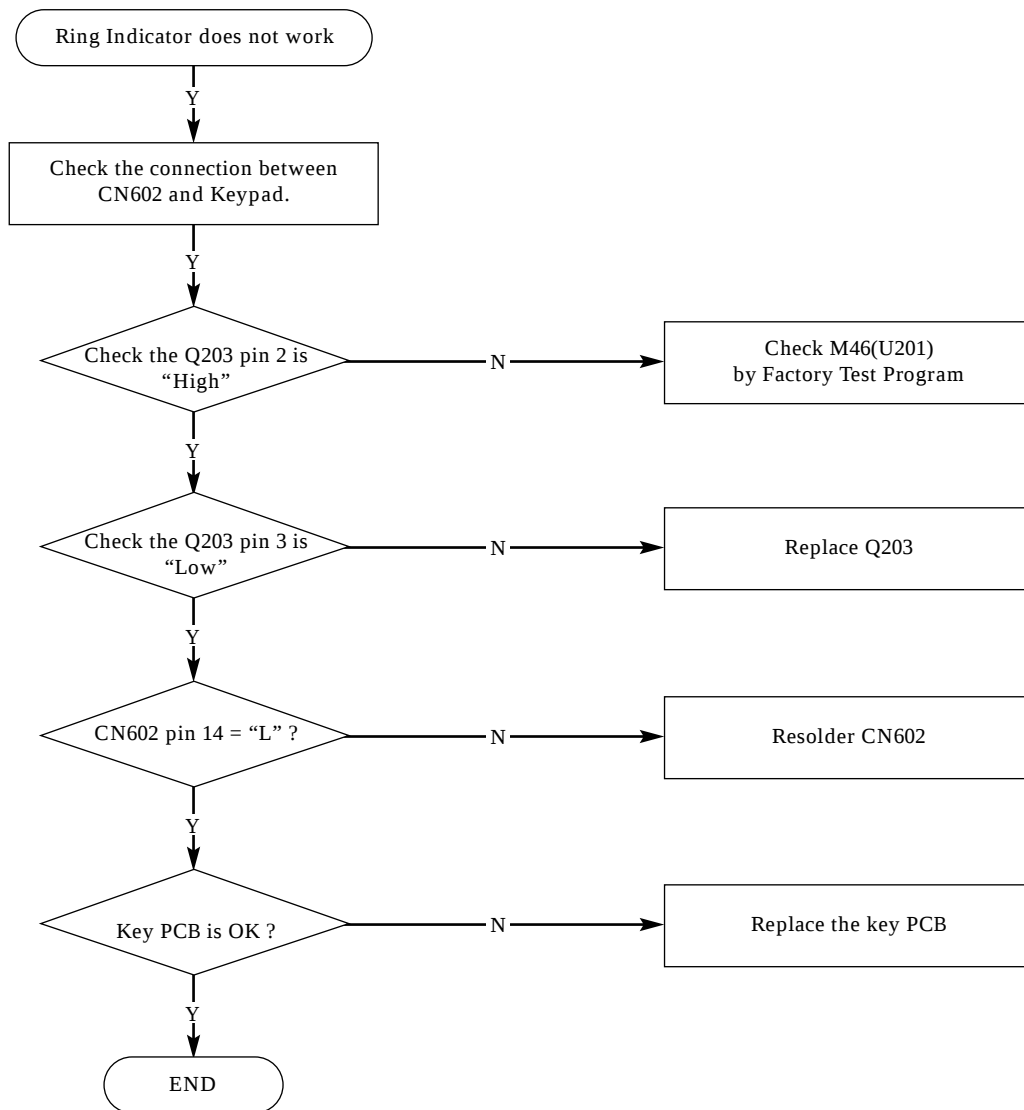
5-6 SGH-A400 Speaker Part



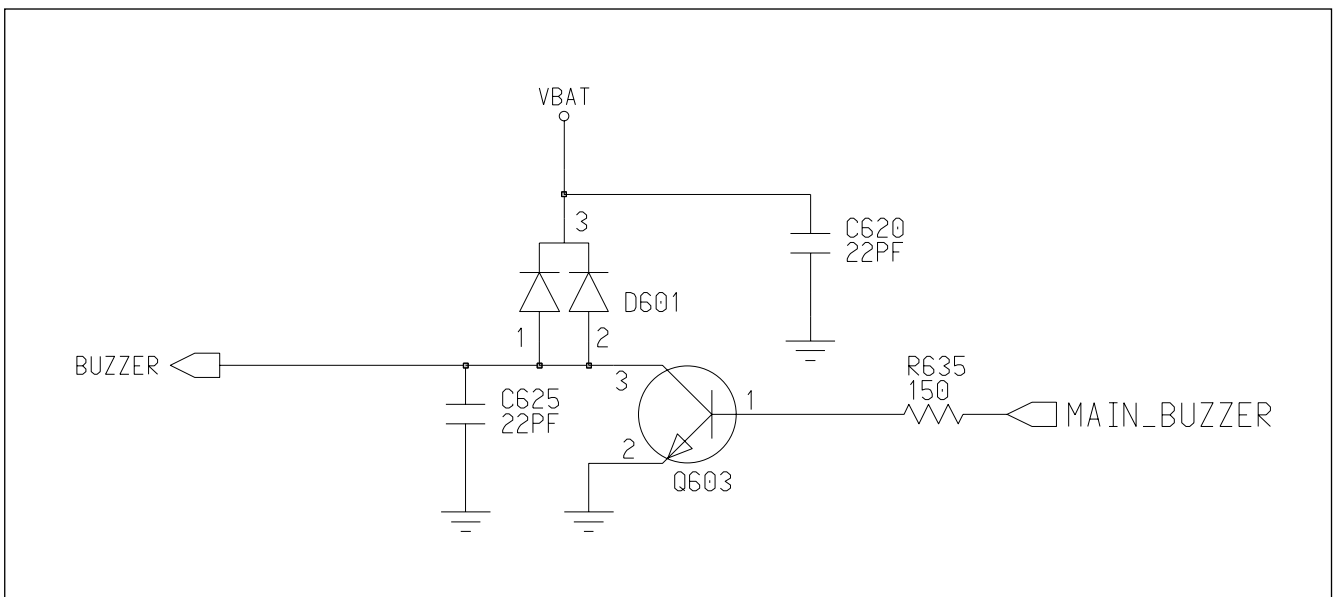
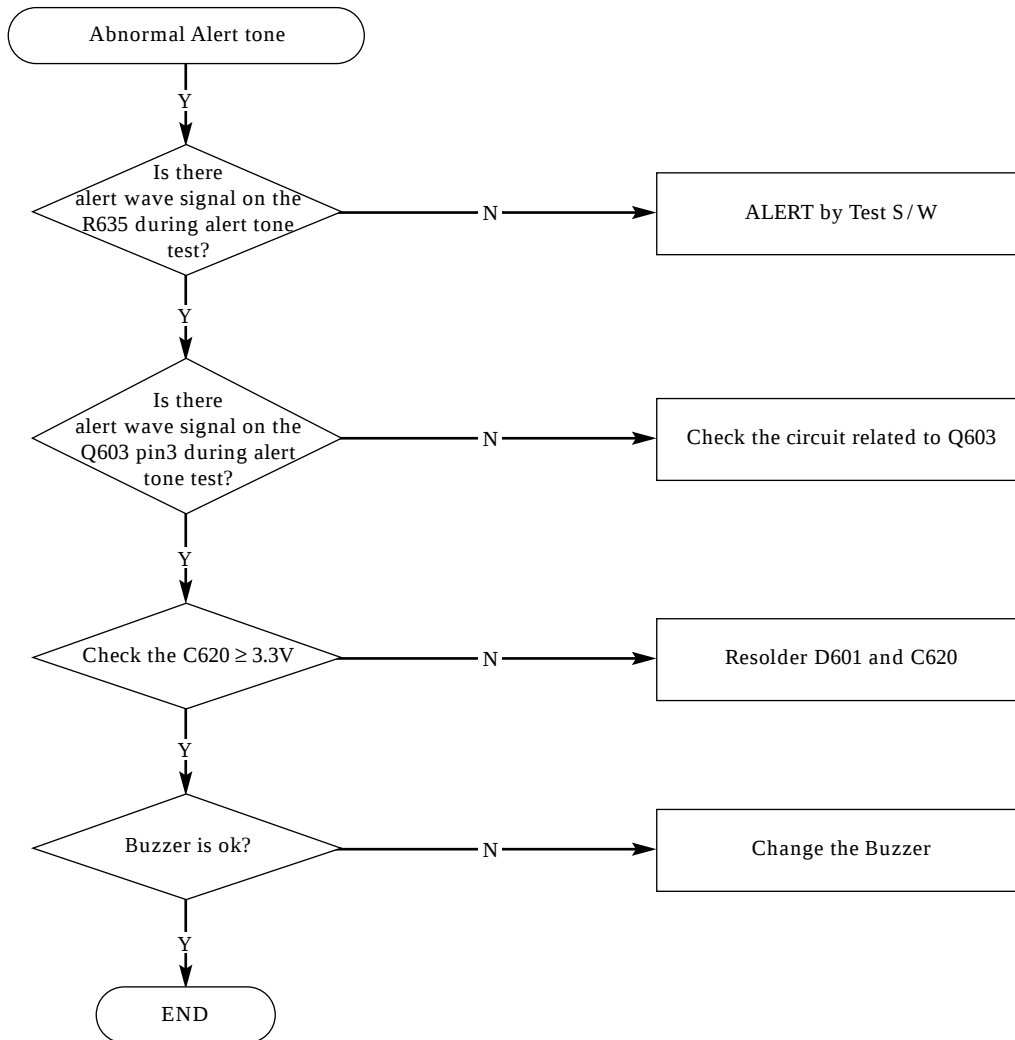
5-7 SGH-A400 Key Data Input



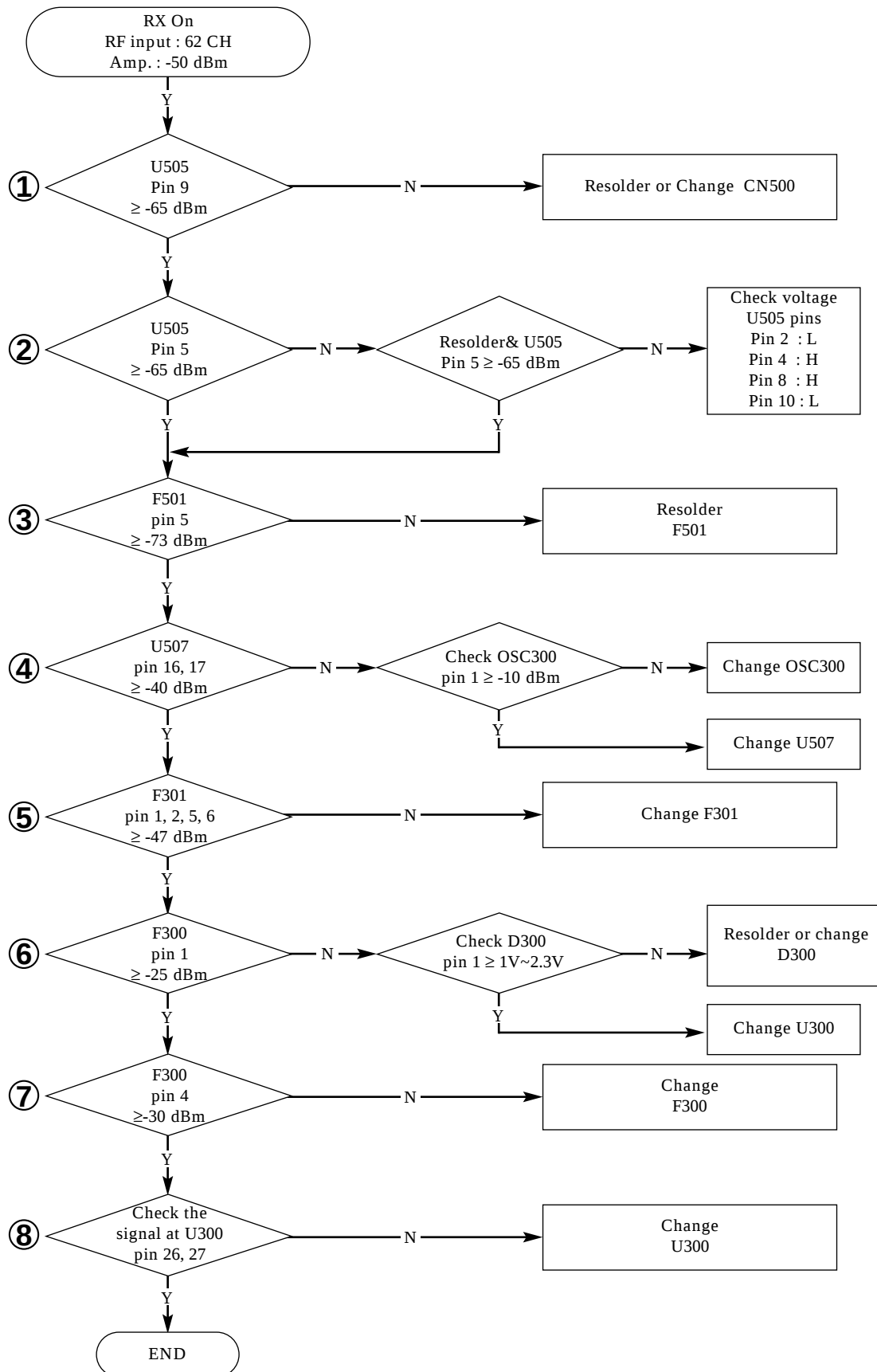
5-8 SGH-A400 Ring Indicator



5-10 SGH-A400 Alert Tone



5-11 SGH-A400 GSM Receiver



Test Condition of RF Bench Test

RF Bench Test

File Graph_Control DSP_control Synthesizer Misc_Param

Synth Channels

Rx/Tx: [62] Mon: [5]

Rx: 947.4 902.4 936.0
 L0 1347.4 1271.4 1336.0

Rx IF = 400 MHz
 Tx IF = 369 MHz

MEW enables

☒ Rx enable
☒ Tx enable
☐ Mon enable

IFS Sequences

☐ Normal
☒ Cont. Rx
☐ Cont. Tx

XO Adjust

Coarse: [0] Fine: [0]

IQ DC Offset

I: [0] Q: [0]

IQ Balance

[0]

Burst Store data

☐ Ones
☐ Arbitrary
☒ Random
☒ Insert Midamble
☐ Invert

MidAmble Position: [59]

RequestWriteIARsync 0x1c14
 0x3333 0x3330 0x27F0 0x2D9E
 0x1E48 0x6C24 0xB844 0xBED2
 0xF7A8 0x888D 0x27A4 0x3333

Ramp Profile

☐ Linear
☐ Raised Cosine
☒ RampLo980
☐ RampHi980
☐ Use values in box

GUI ramp...

Profile

0, 2
 -384, 20
 -253, 10
 -109, 7
 0, 6
 12, 5
 0, 4
 -8, 2
 -24, 2
 -68, 2
 -78, 2
 -116, 2
 -118, 2
 -154, 2
 -194, 2

Actual

0, 2
 -384, 20
 -253, 10
 -109, 7
 0, 6
 12, 5
 0, 4
 -8, 2
 -24, 2
 -68, 2
 -78, 2
 -116, 2
 -118, 2
 -154, 2
 -194, 2

Graph Options

☐ Freeze Graph
☒ Auto Update
☐ TestMode

Max Value: [-30]
 Min Value: [-130]

Tx Powerlevel

[0] DAC
 -20 dB
 bf80 Ricke

Cheaters Haven

Radio type:
☐ 900 Only
☒ 900/1800
☐ 900/1900
☐ All Three

[2300]

RxAGC Setting

☒ Rx0
☒ Rx1
☒ Rx2

Max

☐ IA Gain 0 dB
☐ IA Gain +6 dB
☐ IA Gain +12 dB
☐ IA Gain +18 dB
☒ IA Gain +24 dB

MonAGC Setting

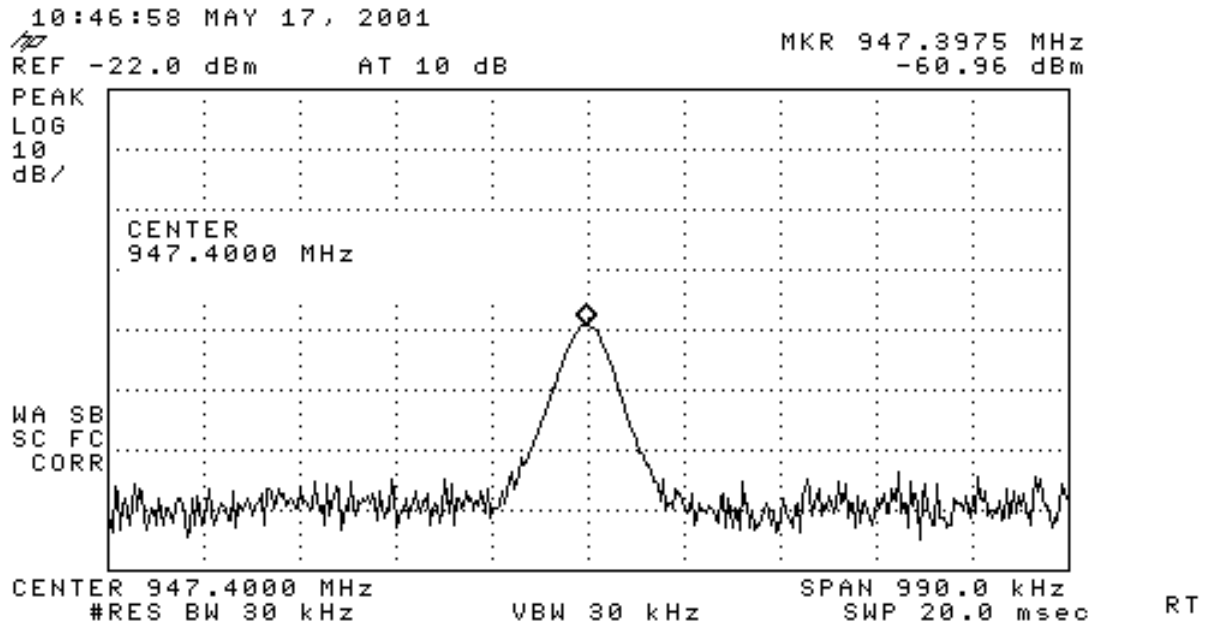
☒ Rx0
☒ Rx1
☐ Rx2

Mid High

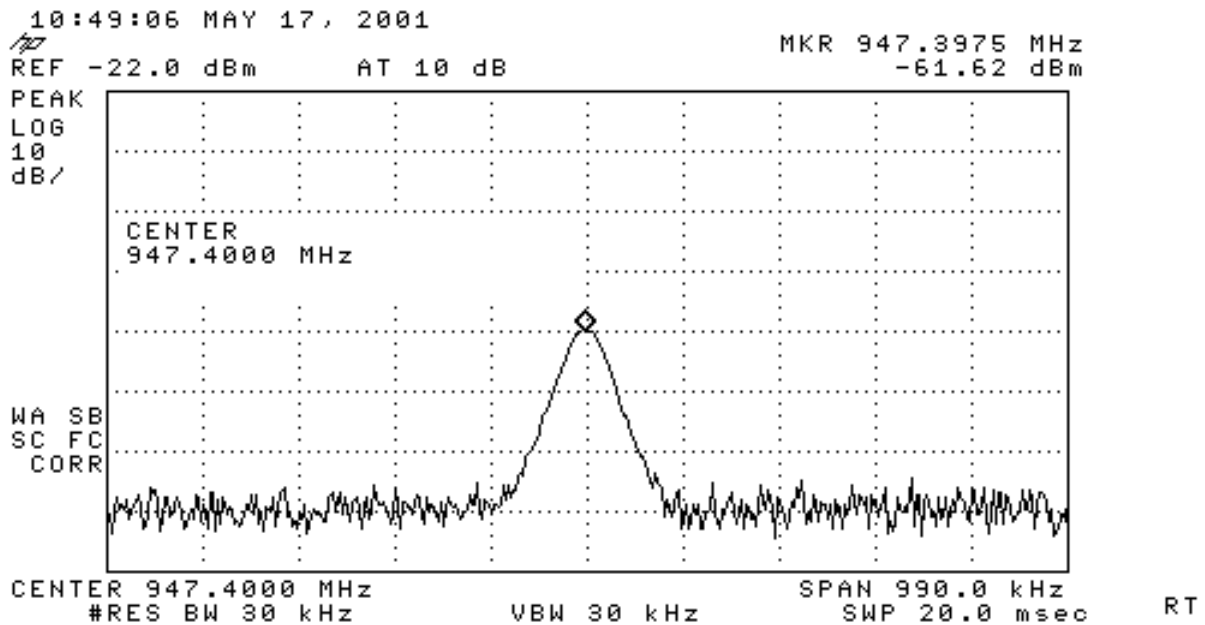
☐ IA Gain 0 dB
☐ IA Gain +6 dB
☐ IA Gain +12 dB
☐ IA Gain +18 dB
☒ IA Gain +24 dB

Version 1999.02.24
 (Dual Band Tolerant)
 Former Rockwell Internal Use Only

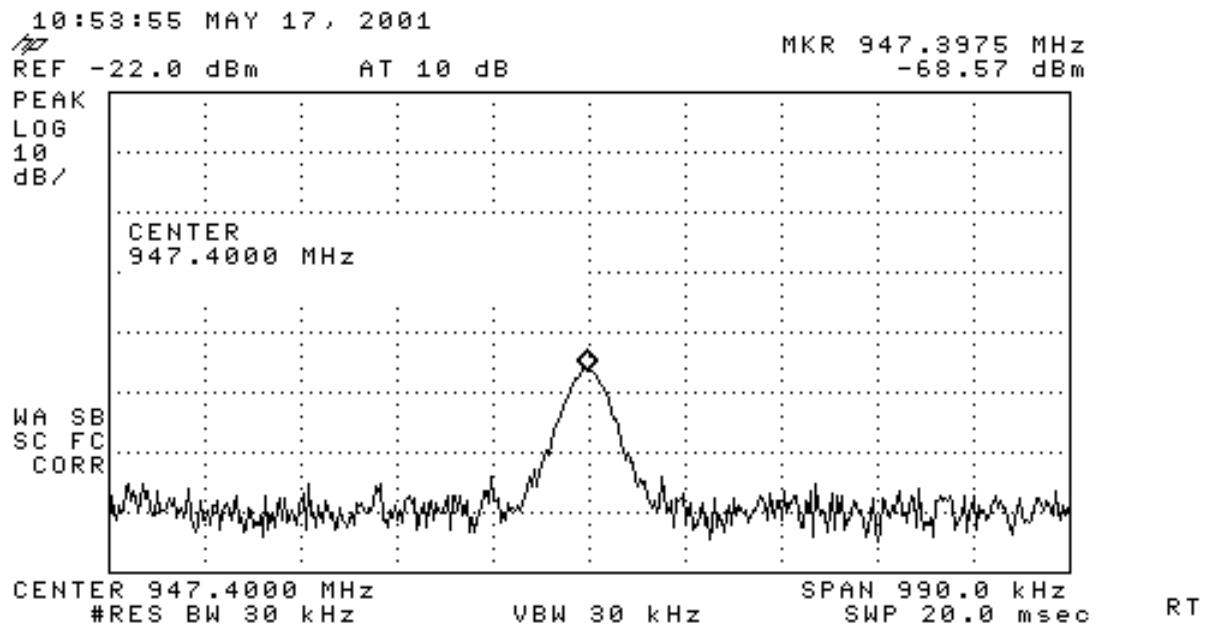
① RX_62_U505 PIN9



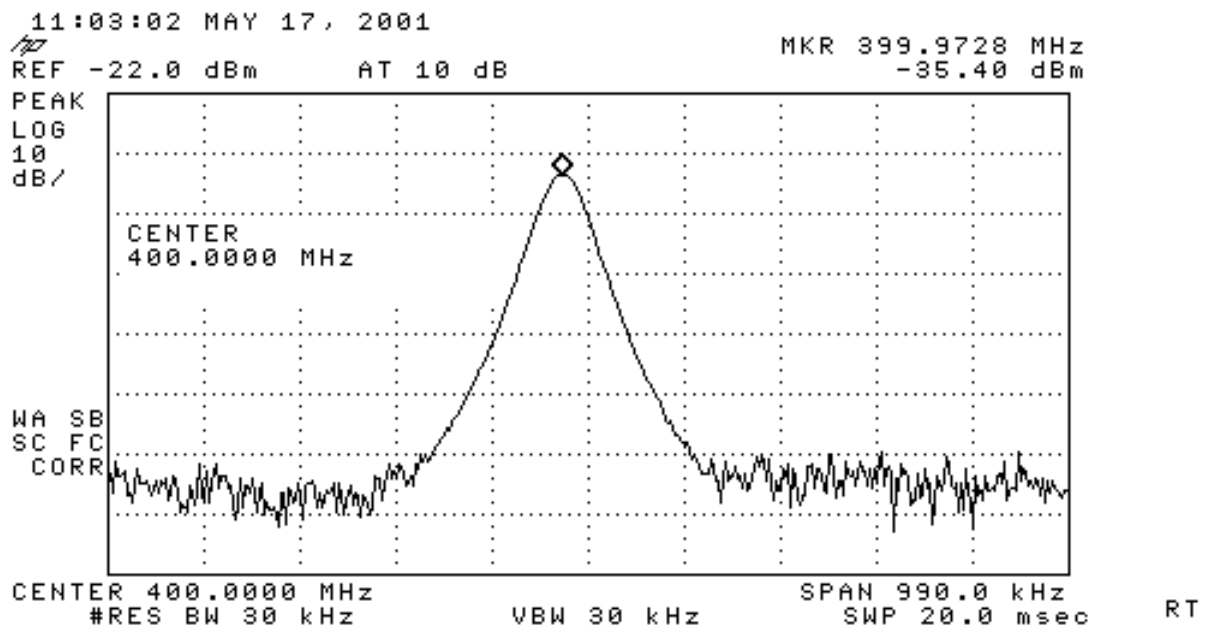
② RX_62_U505 PIN5

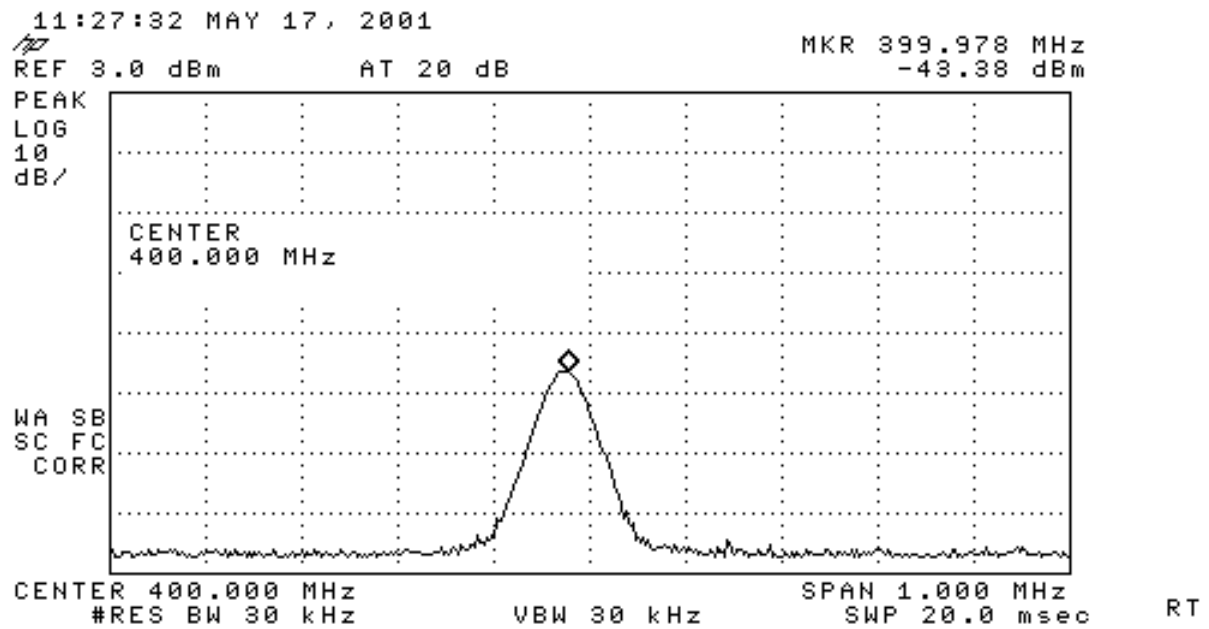
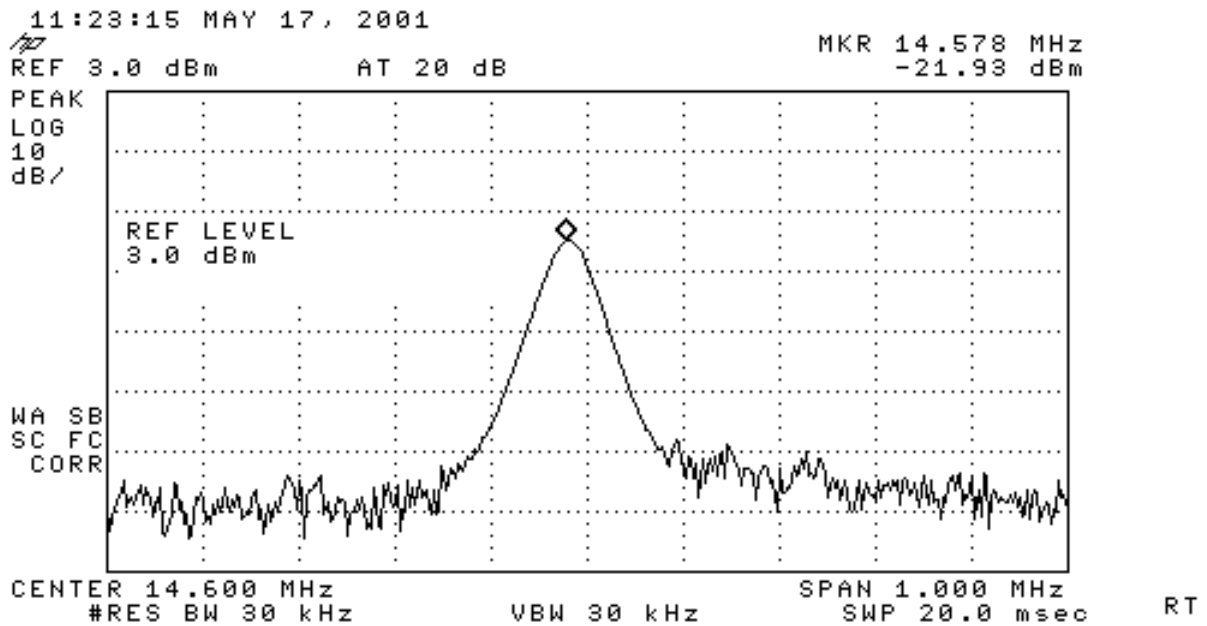


③ RX_62_F501 PIN5

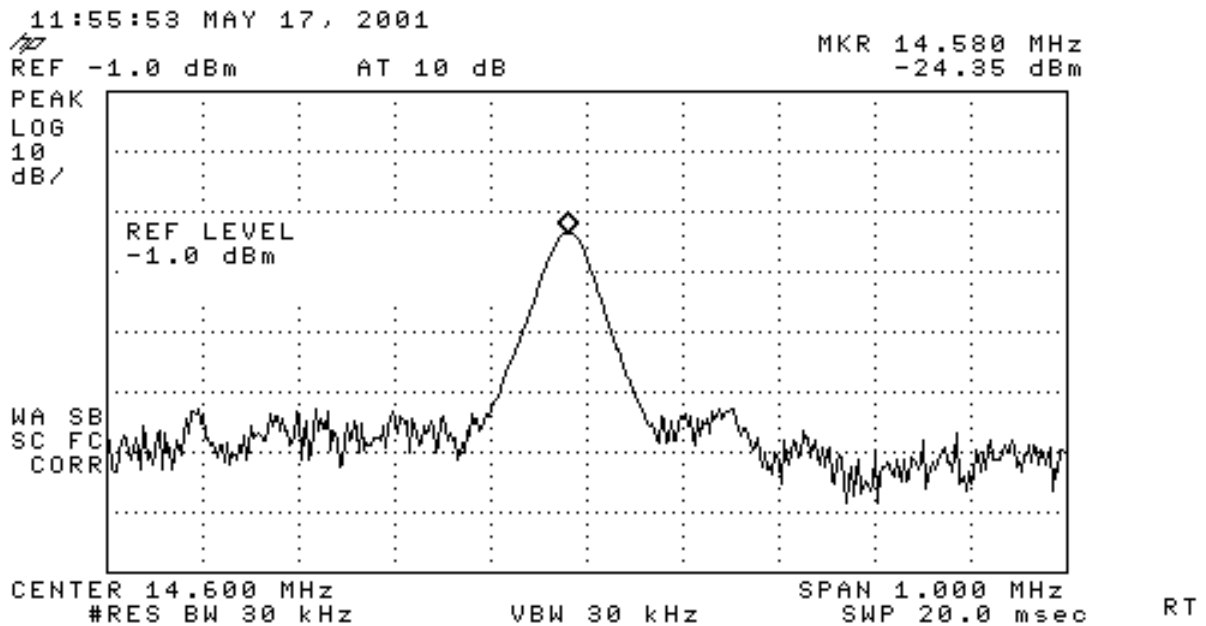


④ RX_62_U507 PIN16

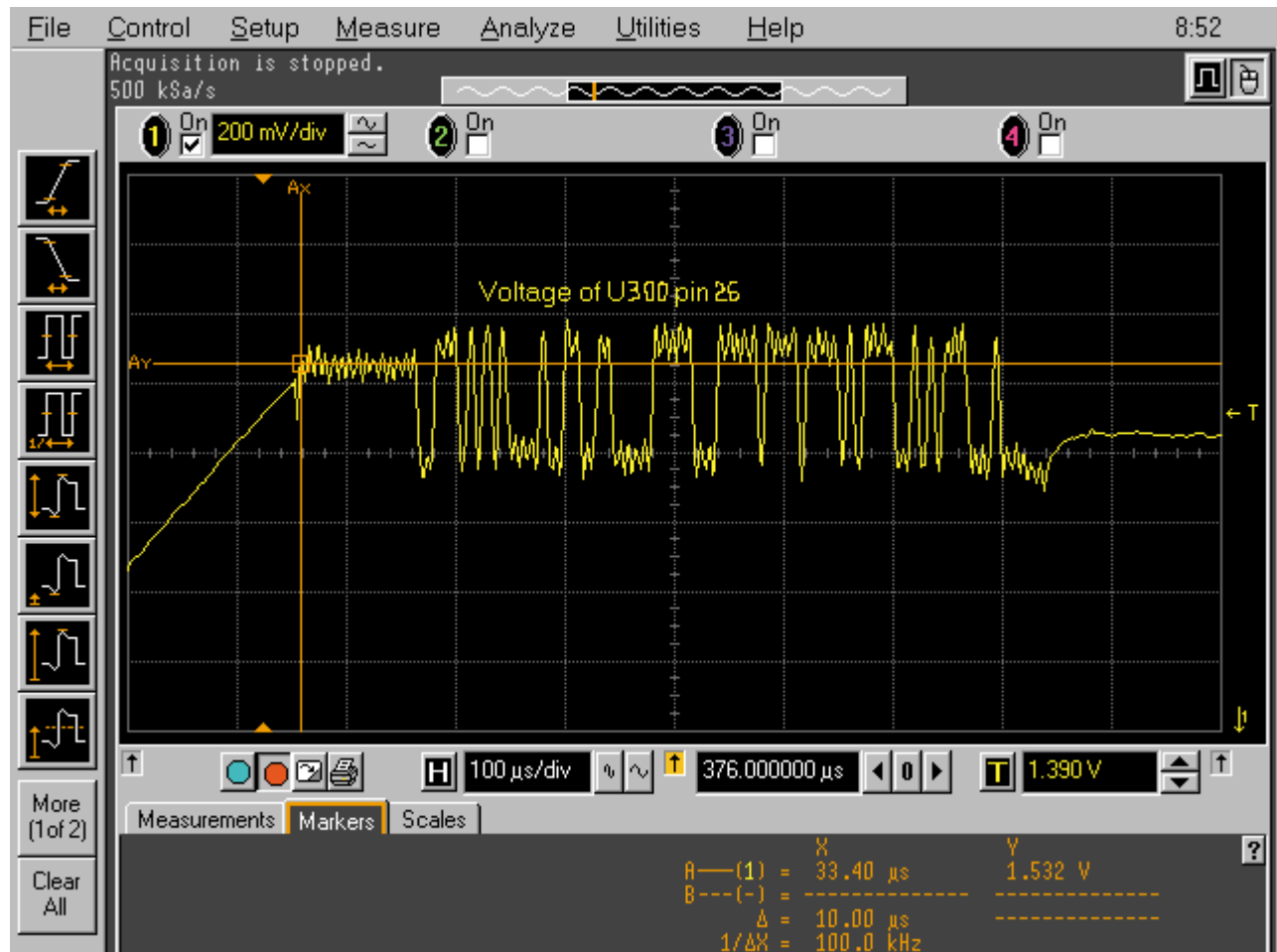


⑤ RX_62_F301 PIN1**⑥ RX_62_F300 PIN1**

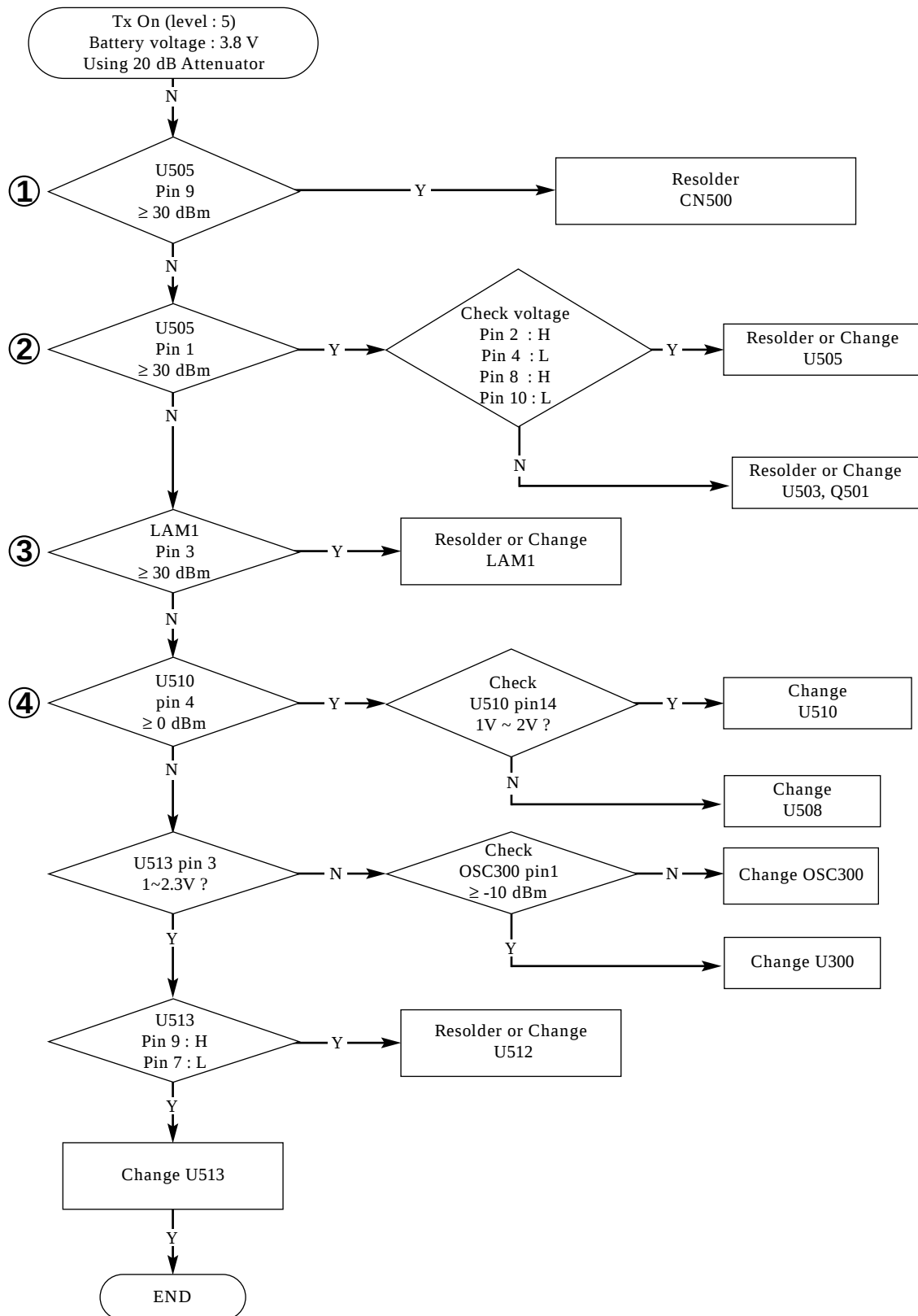
⑦ RX_62_F300 PIN4



⑧ U300_ PIN26



5-12 SGH-A400 GSM Transmit



Test Condition of RF Bench Test

RF Bench Test
File Graph_Control DSP_control Synthesizer Misc_Param

Synth Channels

Rx/Tx: Mon: Mx:

Freq: Rx 947.4 902.4 936.0 Tx 1347.4 1271.4 1336.0

LO: Rx IF = 400 MHz Tx IF = 369 MHz

MEW enables

☒ Rx enable ☐ Normal ☐ Cont. Rx ☒ Cont. Tx

IF Sequences

☐ Normal ☐ Cont. Rx ☒ Cont. Tx

XO Adjust

Coarse: Fine:

IQ DC Offset

I: Q:

IQ Balance

Burst Store data

☐ Ones ☐ 1010... ☐ 0011... ☐ Arbitrary ☒ Random ☒ Insert Midamble ☐ Invert

MidAmble Position:

RequestWriteIDMAsync:
 0x3333 0x3330 0x1740 0x9BC5
 0xE31D 0x80E4 0xB844 0xBCFE
 0xECA8 0x1DAD 0x15CA 0x3333

Ramp Profile

☐ Linear ☐ Andrew ☒ Raised Cosine ☐ RampLo980 ☐ RampHi980 ☐ Use values in box

GUI ramp...

Profile

Actual

Graph Options

☐ Freeze Graph ☒ Auto Update ☐ TestMode

Max Value: Min Value:

Tx Powerlevel

DAC dB a680 Ricke

Cheaters Haven

Radio type: ☐ 900 Only ☒ 900/1800 ☐ 900/1900 ☐ All Three

RxAGC Setting

☒ Rx0 ☒ Rx1 ☐ Rx2

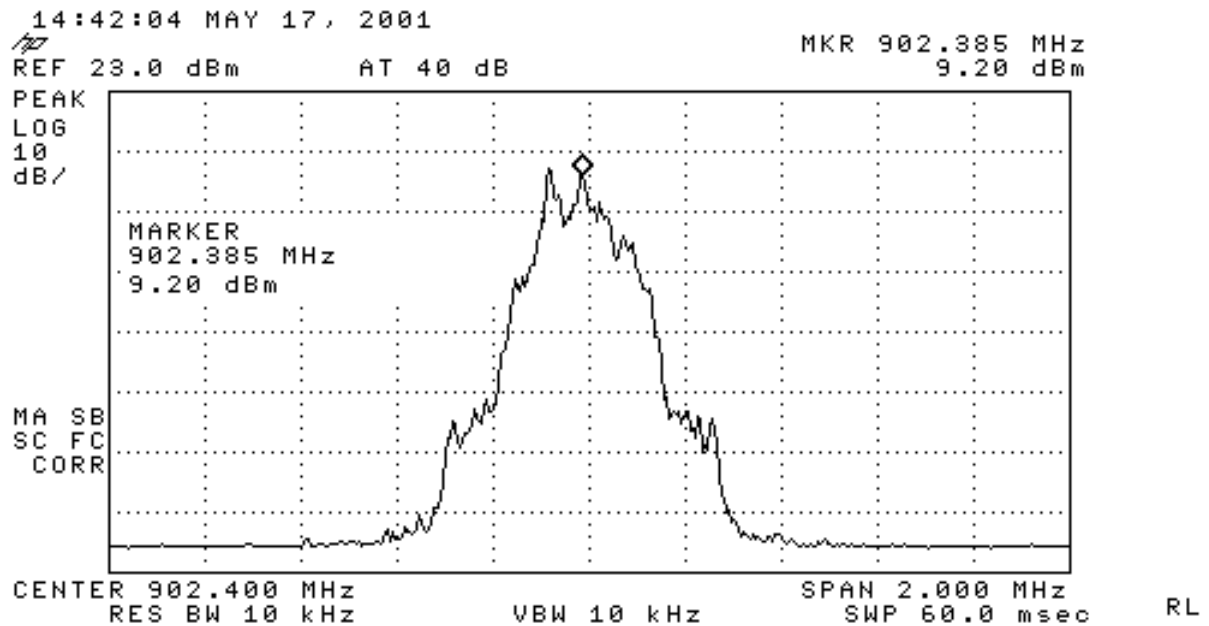
MonAGC Setting

☐ Rx0 ☐ Rx1 ☐ Rx2

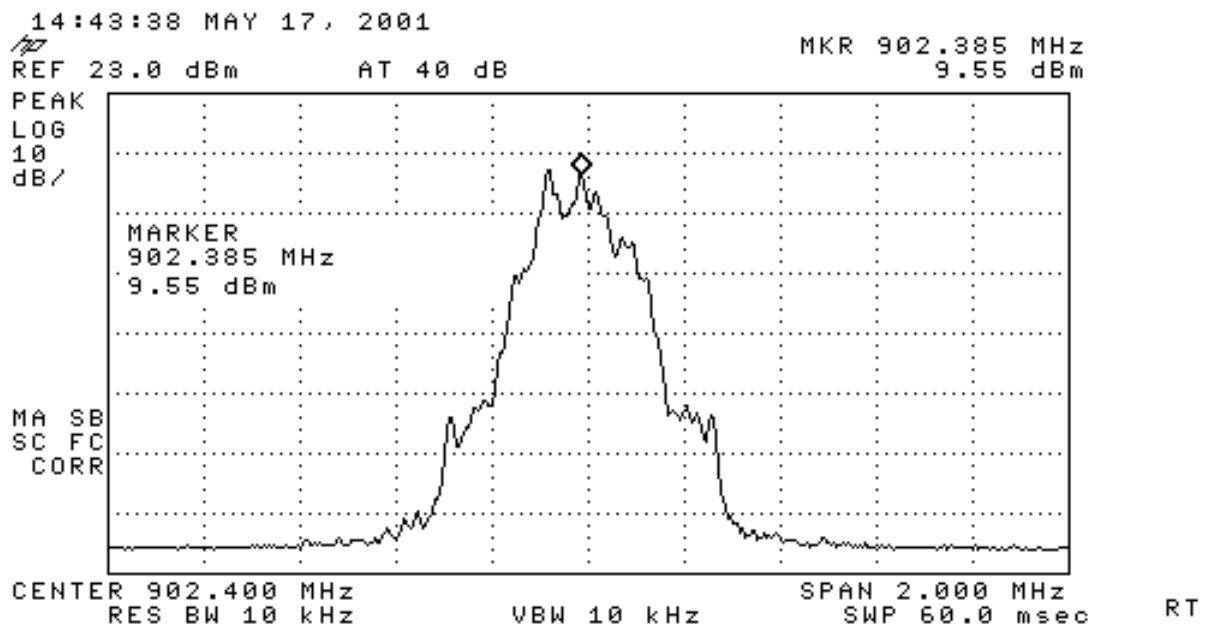
☐ IA Gain 0 dB ☐ IA Gain +6 dB ☐ IA Gain +12 dB ☐ IA Gain +18 dB ☒ IA Gain +24 dB

Version 1999.02.24
(Dual Band Tolerant)
Former Rockwell Internal Use Only

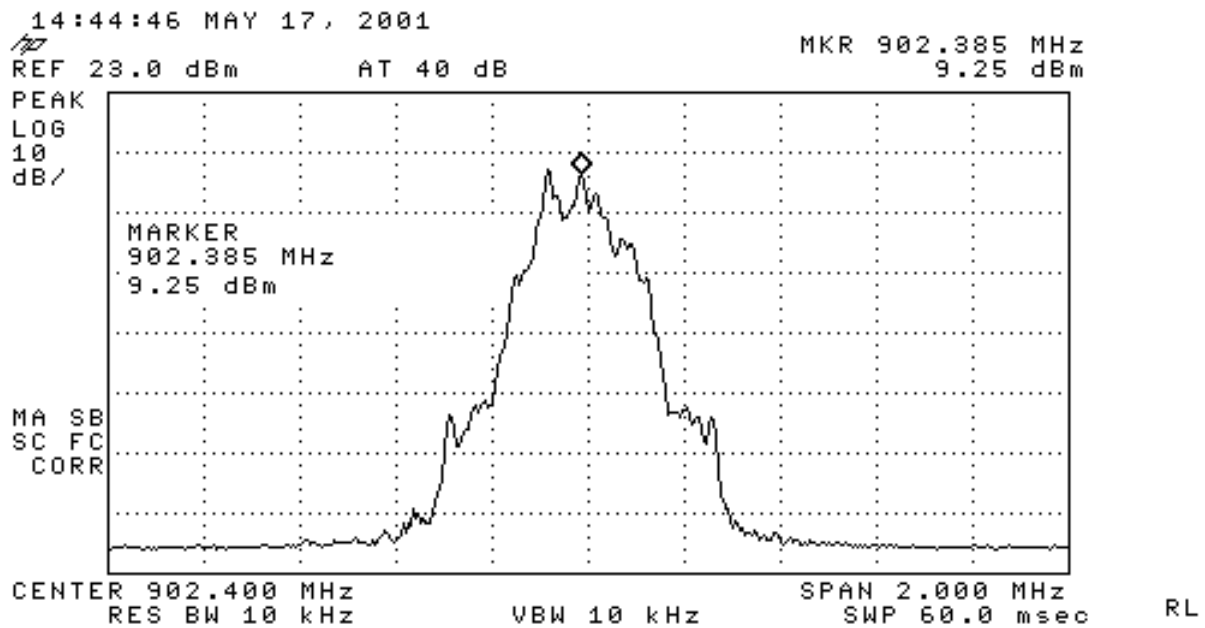
① TX_62_U505 PIN9



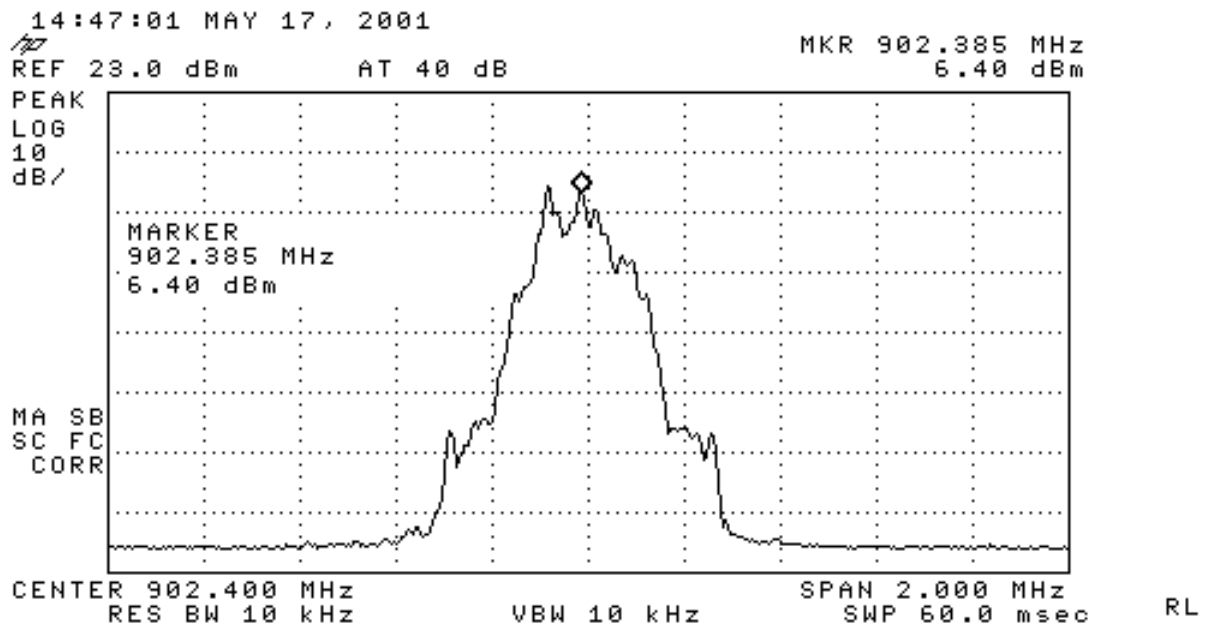
② TX_62_U505 PIN1



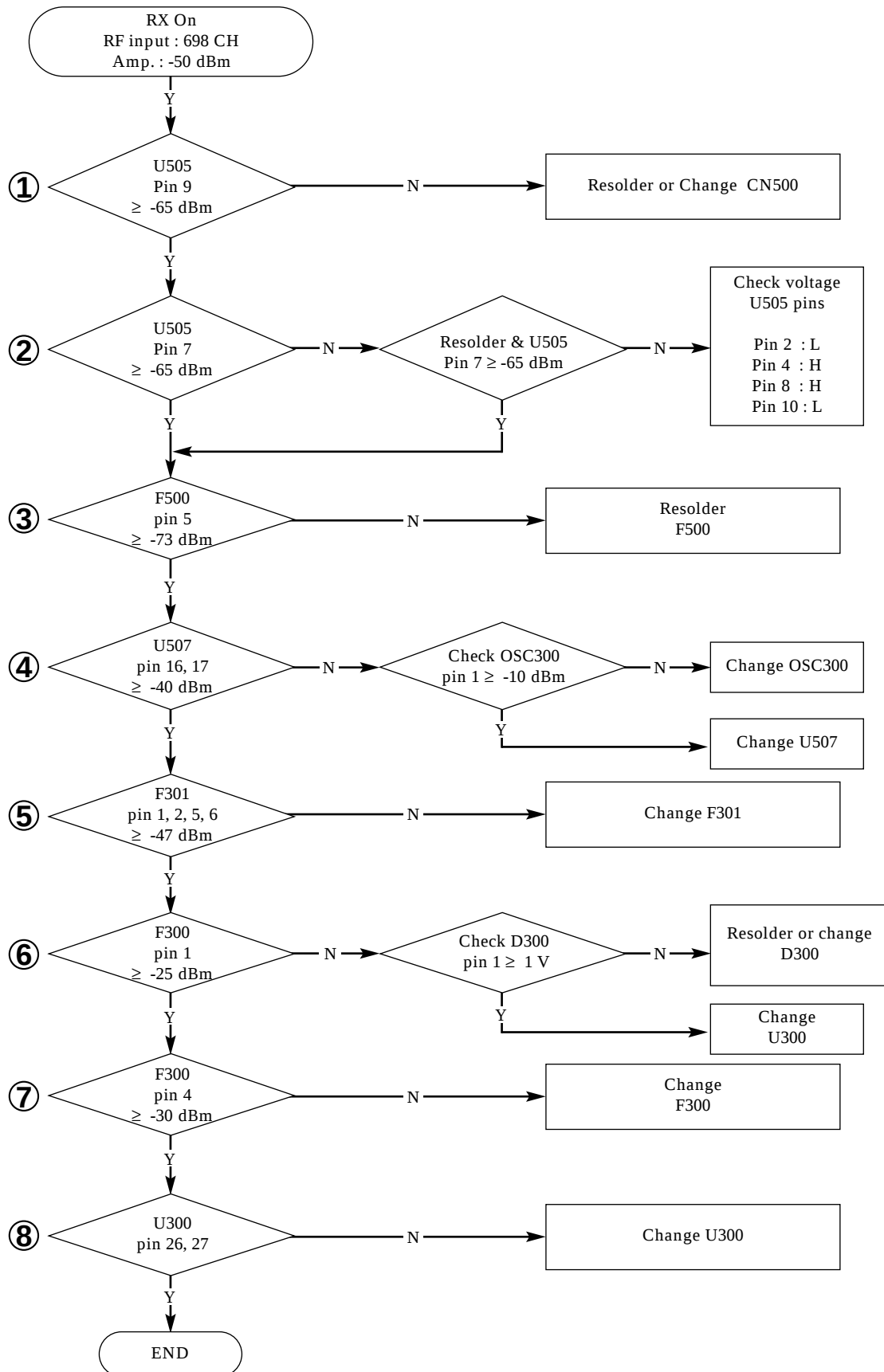
③ TX_62_lam1 PIN3



④ TX_62_U510 PIN4



5-13 SGH-A400 DCS Receiver



Test Condition of RF Bench Test

RF Bench Test

File Graph_Control DSP_control Synthesizer Misc_Param

Synth Channels

Rx/Tx: Mon:

Freq: 1842.4 1747.4 936.0
 LO: 1442.4 1389.4 1336.0

Rx IF = -400 MHz
 Tx IF = -358 MHz

MEW enables

☒ Rx enable
☐ Tx enable
☐ Mon enable

IFS Sequences

☐ Normal
☒ Cont. Rx
☐ Cont. Tx

XO Adjust

Coarse: Fine:

IQ DC Offset

I: Q:

IQ Balance

Burst Store data

☐ Ones ☐ 1010... ☐ 0011...
☐ Arbitrary ☒ Random
☒ Insert Midamble ☐ Invert

MidAmble Position:

RequestWriteIRRsSync: 0x1c14
 0x3333 0x3330 0x5BC7 0x48A8
 0x794A 0x3A64 0x8844 0xBB07
 0x313A 0x73AB 0x9626 0x3333

Ramp Profile

☐ Linear ☐ Andrew
☐ Raised Cosine
☒ RampLo980
☐ RampHi980
☐ Use values in box

GUI ramp...

Profile

Actual

0, 2 -384, 20 -253, 10 -109, 7 0, 6 12, 5 0, 4 -8, 2 -24, 2 -68, 2 -78, 2 -116, 2 -118, 2 -154, 2 -194, 2

Graph Options

☐ Freeze Graph
☒ Auto Update
☐ TestMode

Max Value:
 Min Value:

Tx Powerlevel

DAC
 -20 dB
 bf80 Ricke

Cheaters Haven

Radio type:
☐ 900 Only ☐ 900/1900
☒ 900/1800 ☐ All Three

RxAGC Setting

☒ Rx0 ☒ Rx1 ☐ Rx2

Max

☐ IA Gain 0 dB
☐ IA Gain +6 dB
☐ IA Gain +12 dB
☐ IA Gain +18 dB
☒ IA Gain +24 dB

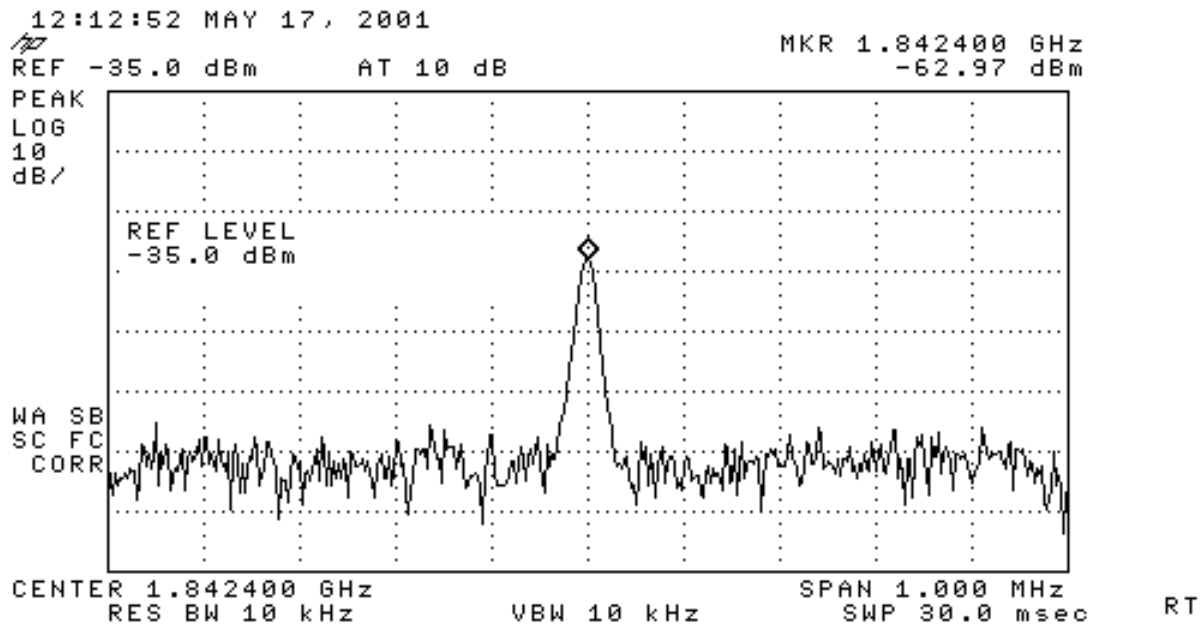
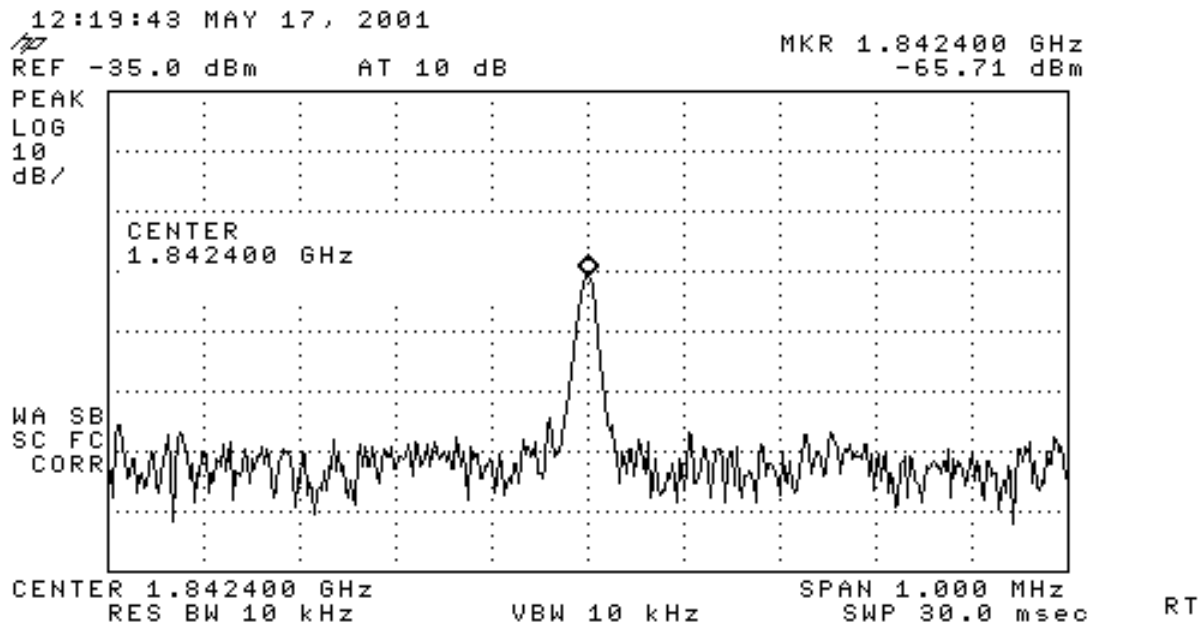
MonAGC Setting

☒ Rx0 ☒ Rx1 ☐ Rx2

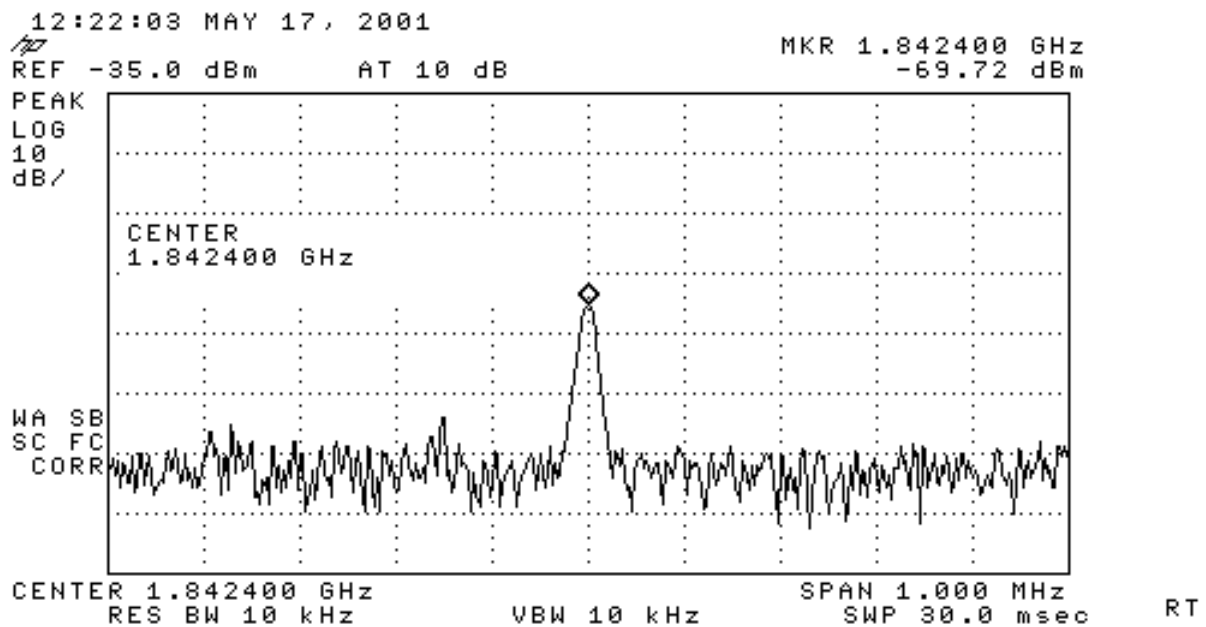
Mid High

☐ IA Gain 0 dB
☐ IA Gain +6 dB
☐ IA Gain +12 dB
☐ IA Gain +18 dB
☒ IA Gain +24 dB

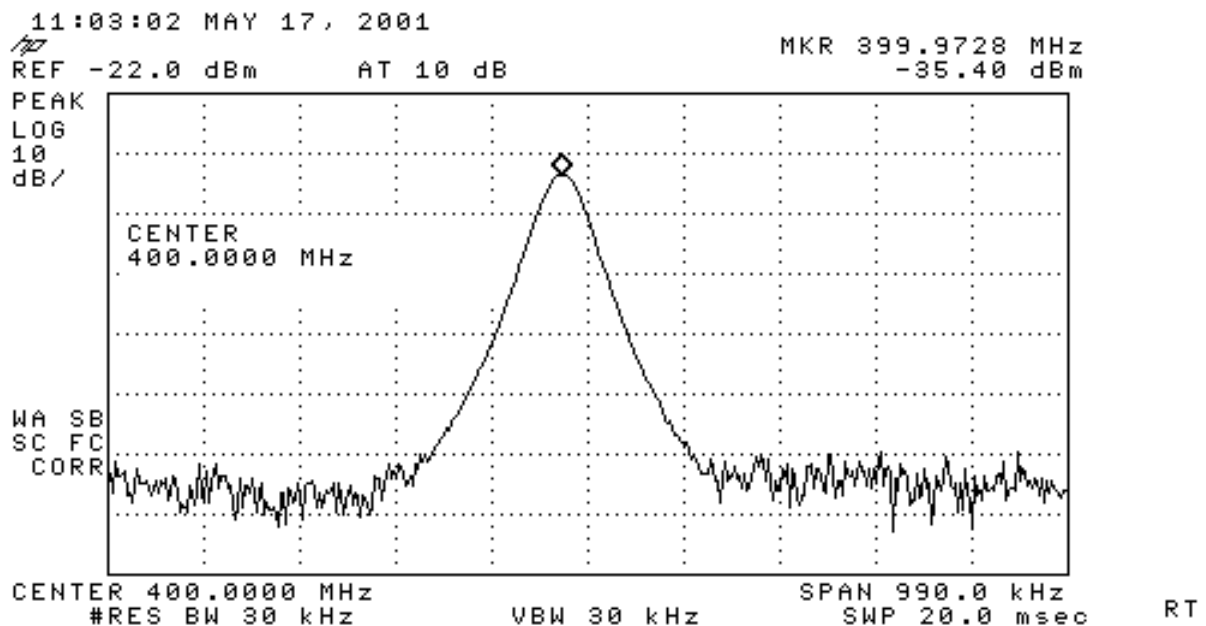
Version 1999.02.24
 (Dual Band Tolerant)
 Former Rockwell Internal Use Only

① RX_698_U505 PIN9**② RX_698_U505 PIN7**

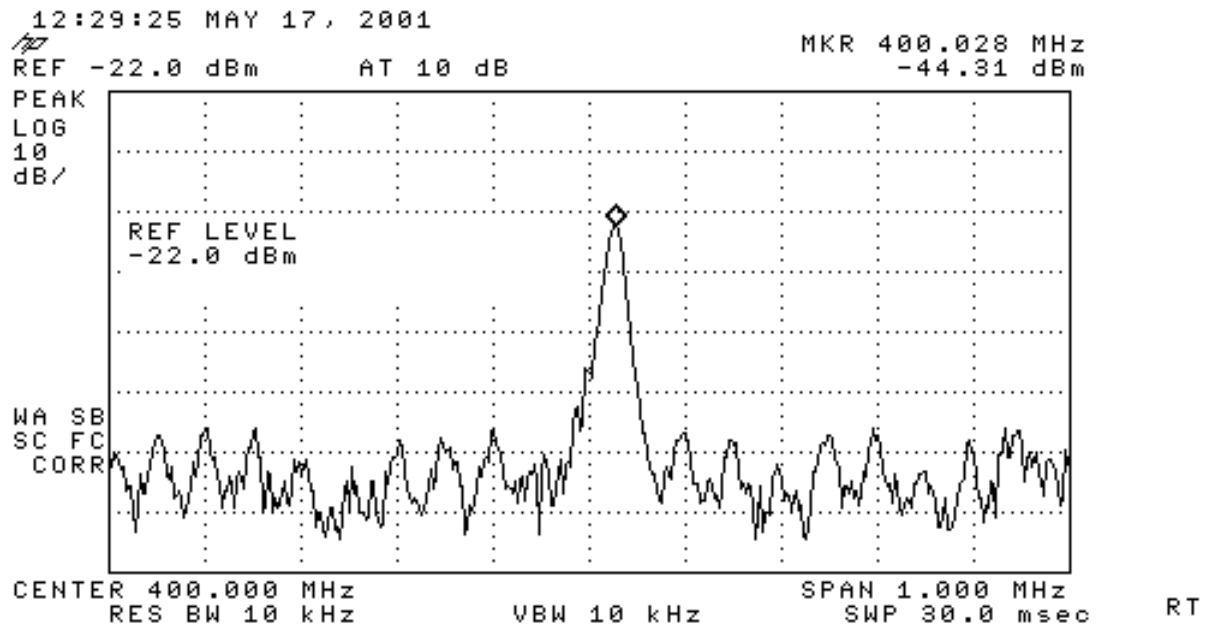
③ RX_698_F500 PIN5



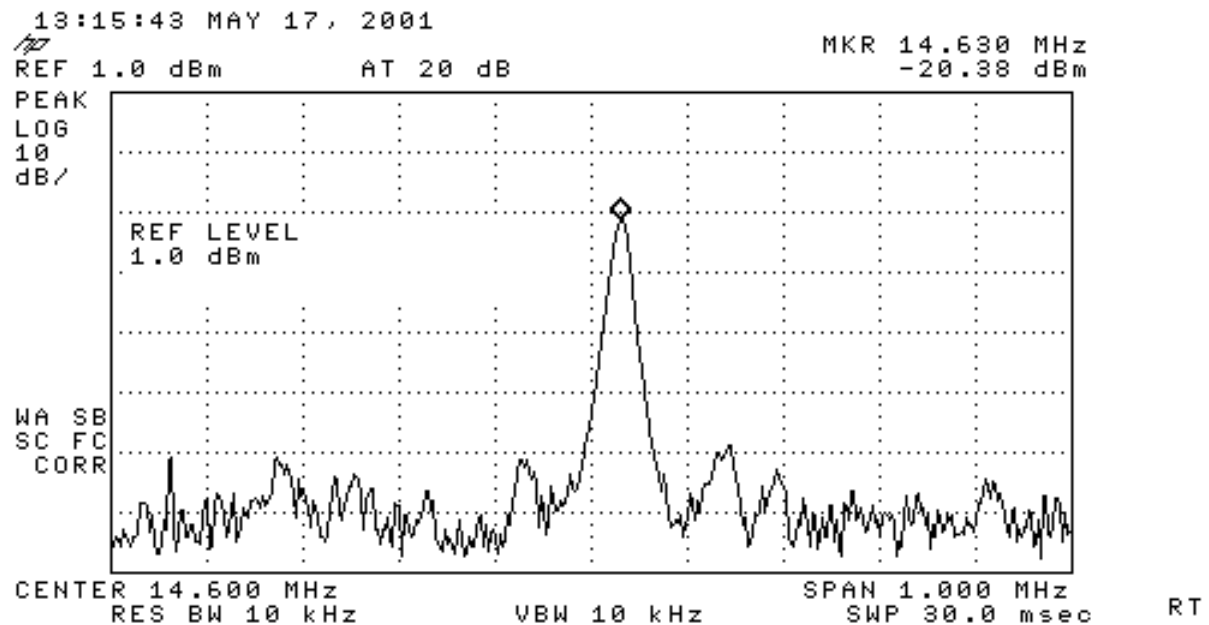
④ RX_698_U507 PIN16



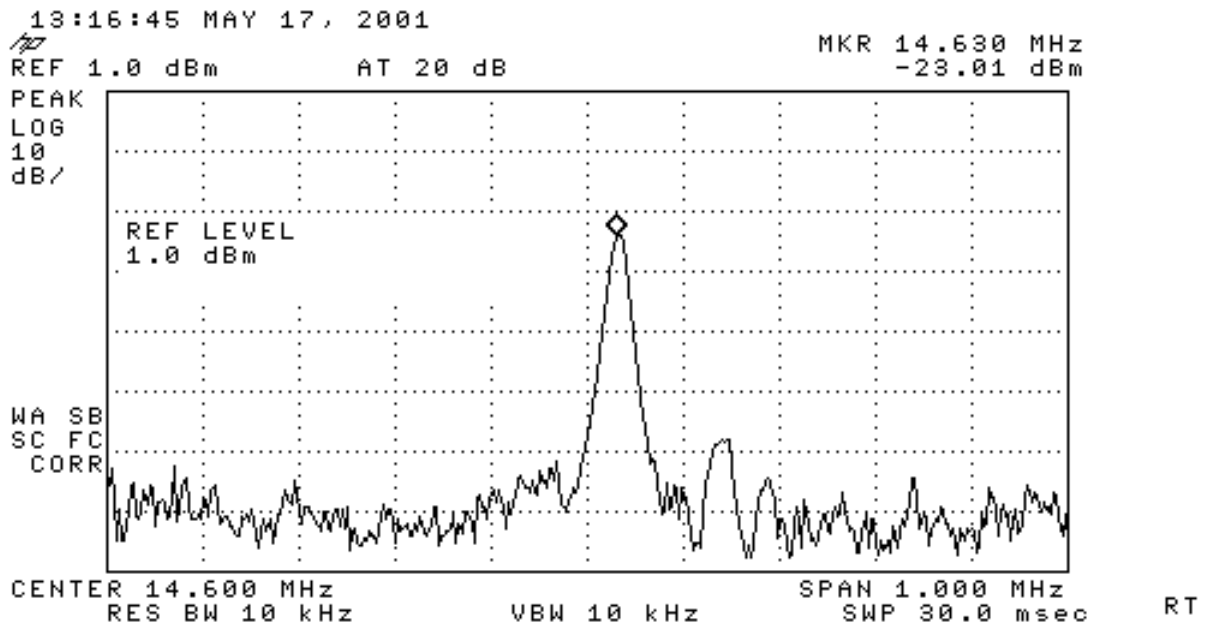
⑤ RX_698_F301 PIN1



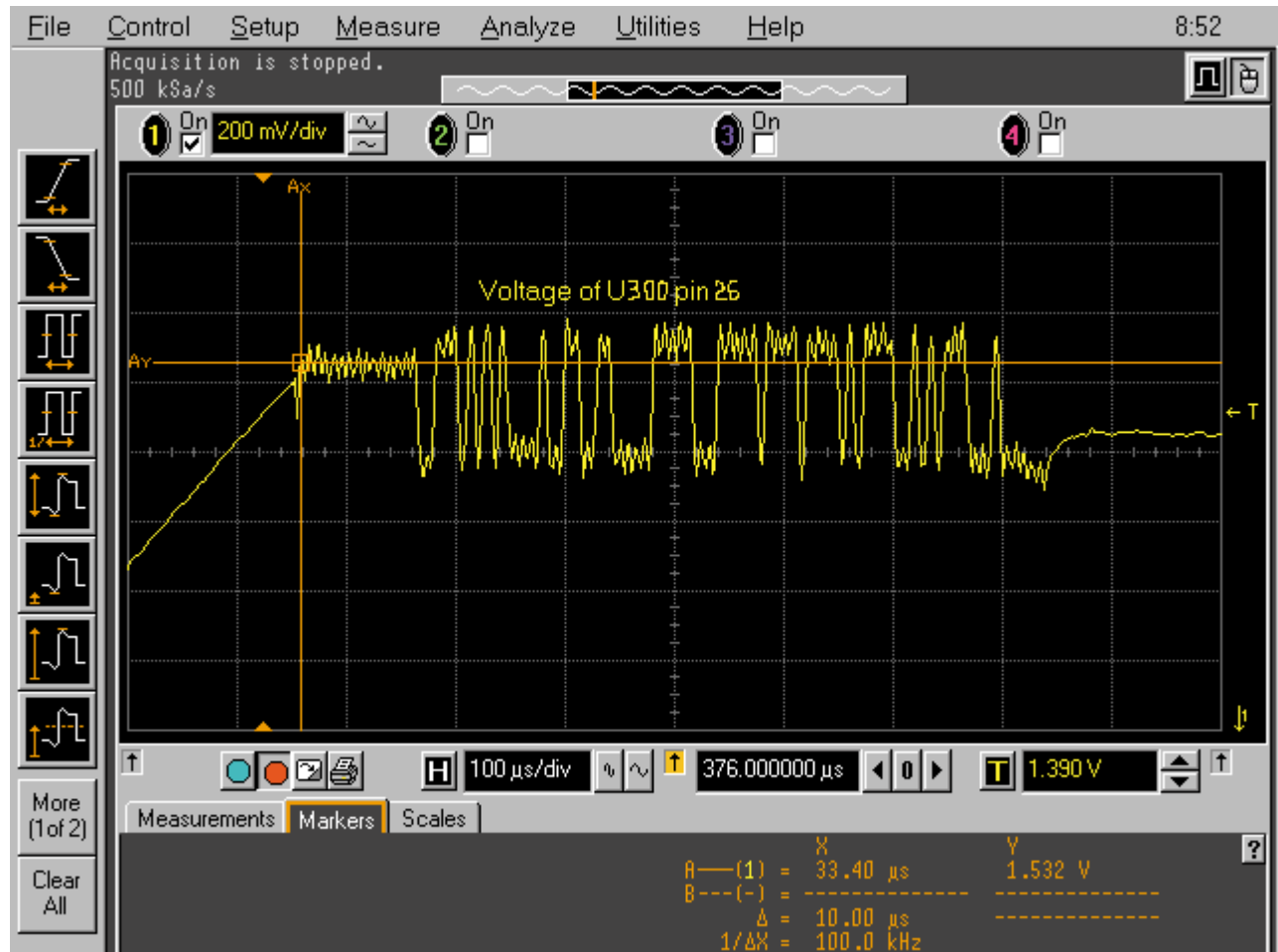
⑥ RX_698_F300 PIN1



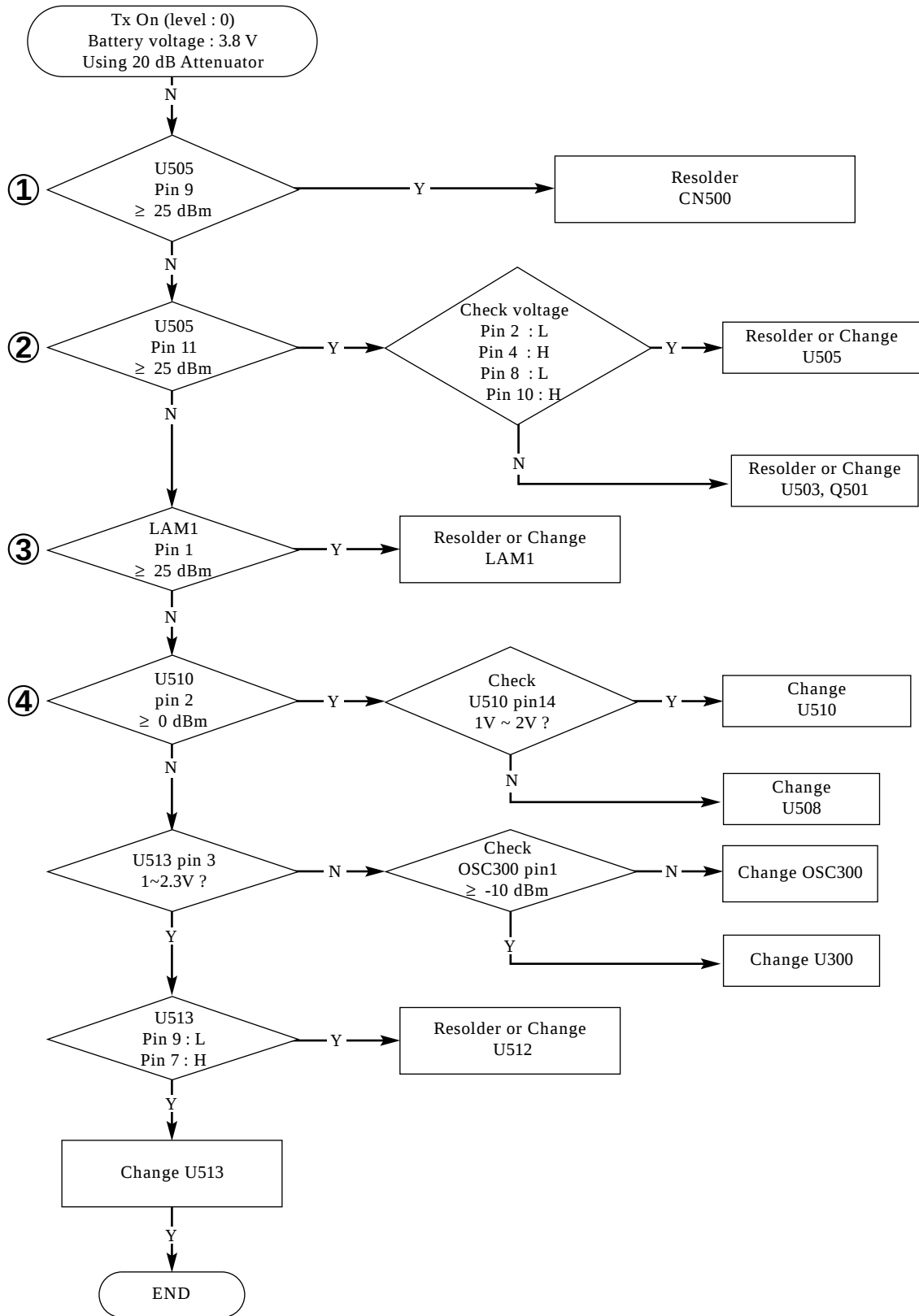
⑦ RX_698_F300 PIN4



⑧ U300_ PIN26



5-14 SGH-A400 DCS Transmit



Test Condition of RF Bench Test

RF Bench Test

File Graph_Control DSP_control Synthesizer Misc_Param

Synth Channels

Rx/Tx: 698 Mon: 5

Freq: 1842.4 Tx: 1747.4 Mx: 936.0

LO: 1442.4 1389.4 1336.0

Rx IF = -400 MHz

Tx IF = -358 MHz

MEW enables

☒ Rx enable ☐ IFS Sequences

☒ Tx enable ☐ Normal

☒ Mon enable ☐ Cont. Rx ☒ Cont. Tx

XO Adjust

Coarse: 0 Fine: 0

-IQ DC Offset

I: 0 Q: 0

-IQ Balance

0

Burst Store data

☐ Ones ☐ 1010... ☐ 0011...

☐ Arbitrary ☒ Random

☒ Insert Midamble ☐ Invert

Midamble Position: 59

RequestWriteIMAsync: 0x1c14

0x3333 0x3330 0x1663 0xccc0

0xE4EA 0x0844 0xB844 0xBA18

0xB476 0x3B21 0x1410 0x3333

Ramp Profile

☐ Linear ☐ Andrew

☐ Raised Cosine

☒ RampLo980

☐ RampHi980

☐ Use values in box

GUI ramp...

Profile

Actual

-100, 2 -100, 2

-484, 20 -484, 20

-353, 10 -353, 10

-209, 7 -209, 7

-100, 6 -100, 6

-88, 5 -88, 5

-100, 4 -100, 4

-108, 2 -108, 2

-124, 2 -124, 2

-168, 2 -168, 2

-178, 2 -178, 2

-216, 2 -216, 2

-218, 2 -218, 2

-254, 2 -254, 2

-294, 2 -294, 2

Graph Options

☐ Freeze Graph

☒ Auto Update

☐ TestMode

Max Value: -30

Min Value: -130

Tx Powerlevel

-100 DAC

-46 dB

a680 Ricke

Cheaters Haven

Radio type:

☐ 900 Only ☐ 900/1900

☒ 900/1800 ☐ All Three

2300

RxAGC Setting

☒ Rx0 ☒ Rx1 ☐ Rx2

☐ IA Gain 0 dB

☐ IA Gain +6 dB

☐ IA Gain +12 dB

☐ IA Gain +18 dB

☒ IA Gain +24 dB

MonAGC Setting

☒ Rx0 ☒ Rx1 ☐ Rx2

☐ IA Gain 0 dB

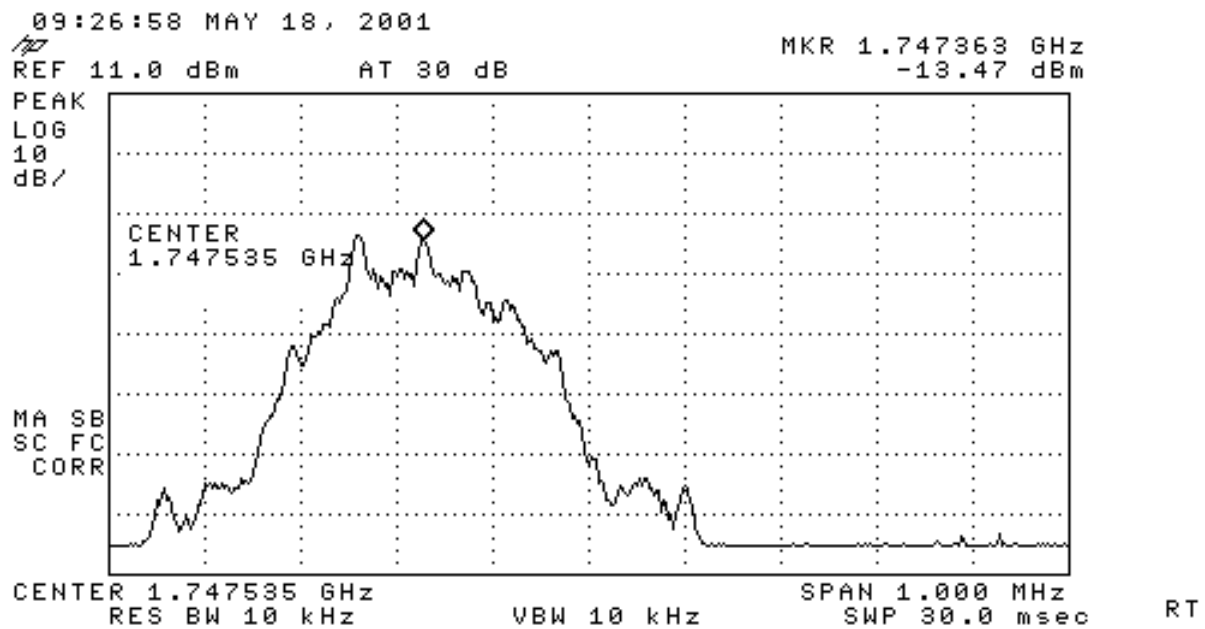
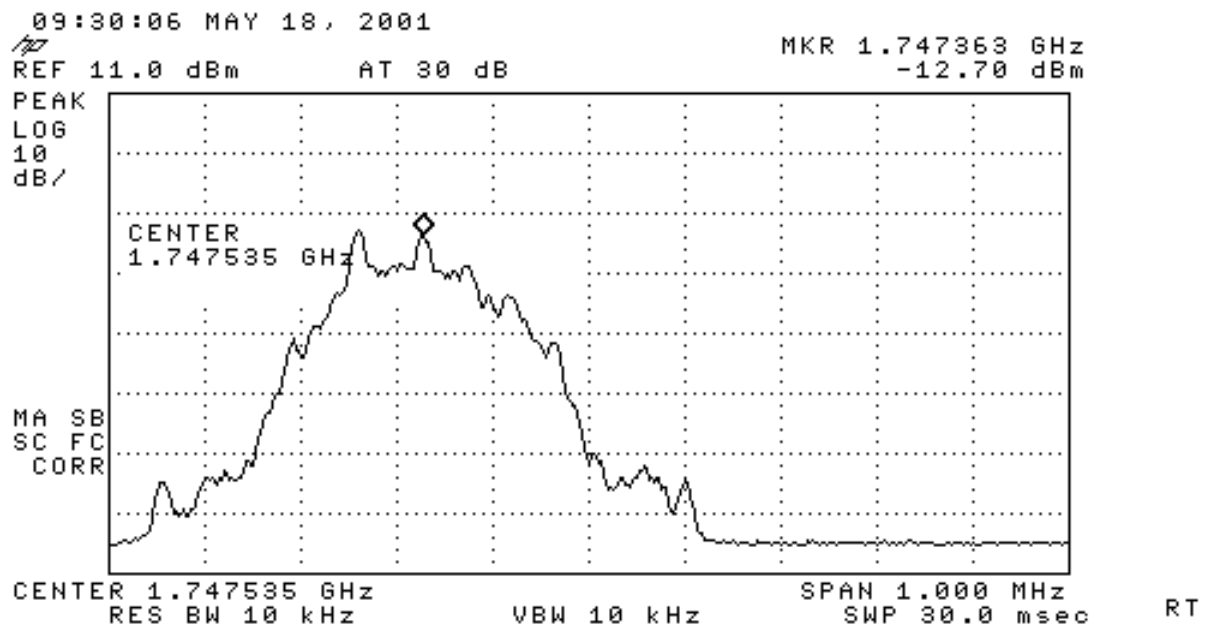
☐ IA Gain +6 dB

☐ IA Gain +12 dB

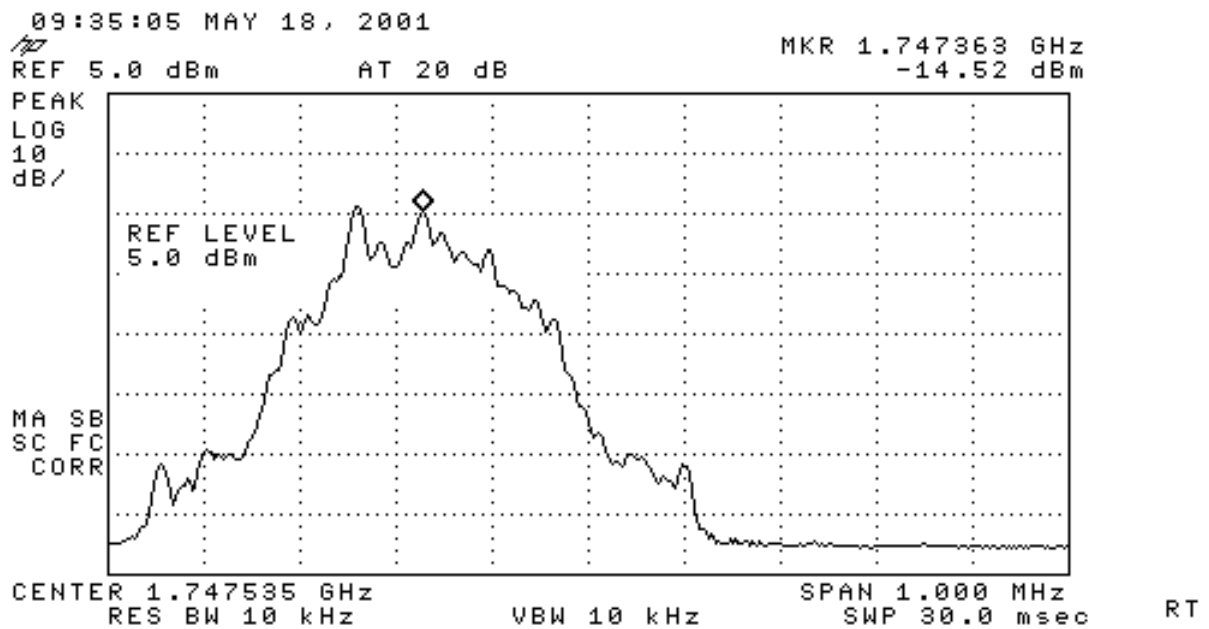
☐ IA Gain +18 dB

☒ IA Gain +24 dB

Version 1999.02.24
(Dual Band Tolerant)
Former Rockwell Internal Use Only

① TX_698_U505 PIN9**② TX_698_U505 PIN11**

③ TX_698_lam1 PIN1



④ TX_698_U510 PIN2



