

RF TEST REPORT

Test item : Cellular/PCS GSM/GPRS phone with Bluetooth and NFC
Model No. : LG-T530, T530, LGT530
Order No. : 1103-00375
Date of receipt : 2011-03-26
Test duration : 2011-04-19 ~ 2011-04-26
Date of issue : 2011-04-27
Use of report : FCC Original Grant

Applicant : LG Electronics, Inc.
60-39, Gasan-dong, Gumchon-gu, Seoul, 153-023, Korea

Test laboratory : Digital EMC Co., Ltd.
683-3, Yubang-Dong, Cheoin-Gu, Yongin-Si, Kyunggi-Do, 449-080, Korea

Test specification : FCC Part 15.225 Subpart C
Test environment : See appended test report
Test result : ☒ Pass ☐ Fail

The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose. This test report shall not be reproduced except in full, without the written approval of DIGITAL EMC CO., LTD.

Tested by:

Engineer
S.K. RYU

Witnessed by:

N/A

Reviewed by:

Manager
W.J. Lee

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1. Equipment information

1.1 Equipment description

FCC Equipment Class	Low Power Communications Device Transmitter(DXX)
Equipment type	Cellular/PCS GSM/GPRS phone with Bluetooth and NFC
Equipment model name	LG-T530
Equipment add model name	T530, LGT530
Equipment serial no.	Identical prototype
Frequency band	13.56MHz
Modulation type	ASK
Channel	1
Power	Li-ion polymer Battery: DC 3.7V AC-DC Adaptor: AC 120V 60Hz
Antenna type	Loop Antenna

1.2 Ancillary equipment

Equipment	Model No.	Serial No.	Manufacturer	Note
-	-	-	-	-
-	-	-	-	-

2. Information about test items

2.1 Test mode

Test mode	Continuous transmitting mode
-----------	------------------------------

Note: For the test mode, a test program was supported by manufacturer.

2.2 Auxiliary equipment

Equipment	Model No.	Serial No.	Manufacturer	Note
-	-	-	-	-
-	-	-	-	-

2.3 Tested frequency

	TX Frequency (MHz)	RX Frequency (MHz)
Lowest Channel	13.56	13.56
Middle Channel	-	-
Highest Channel	-	-

2.4 Tested environment

Temperature	: 23 °C
Relative humidity content	: 37 ~ 38 % R.H.
Details of power supply	: Battery: DC 3.7 V AC 120V 60Hz

2.5 EMI Suppression Device(s)/Modifications

EMI suppression device(s) added and/or modifications made during testing
→ None

3. Test Report

3.1 Summary of tests

FCC Part Section(s)	Parameter	Limit	Test Condition	Status Note 1
I. Test Items				
2.1049	20 dB Bandwidth	N/A	Radiated	C
15.225 (a)	In-Band Emissions	15.848 $\mu V/m$ @ 30m 15.553 – 13.567 MHz		C
15.225 (b)	In-Band Emissions	334 $\mu V/m$ @ 30m 13.410 – 13.553 MHz 13.567 – 13.710 MHz		C
15.225 (c)	In-Band Emissions	106 $\mu V/m$ @ 30m 13.110 – 13.410 MHz 13.710 – 14.010 MHz		C
15.225 (d) 15.205 15.209	Out-of Band Emissions	Emissions outside of the specified band (13.110-14.010 MHz) must meet the radiated limits detailed in 15.209		C
15.225 (e)	Frequency Stability Tolerance	$\pm 0.001\%$ of operating frequency	Conducted	C
15.207	AC Conducted Emissions	EN 55022	AC Line Conducted	C
15.203	Antenna requirements	FCC Part 15.203	-	C Note 2
Note 1: C=Comply NC=Not Comply NT=Not Tested NA=Not Applicable Note 2: This device uses a unique connector. Refer to internal photo file.				

The sample was tested according to the following specification:
ANSI C-63.4-2003

3.2 Transmitter requirements

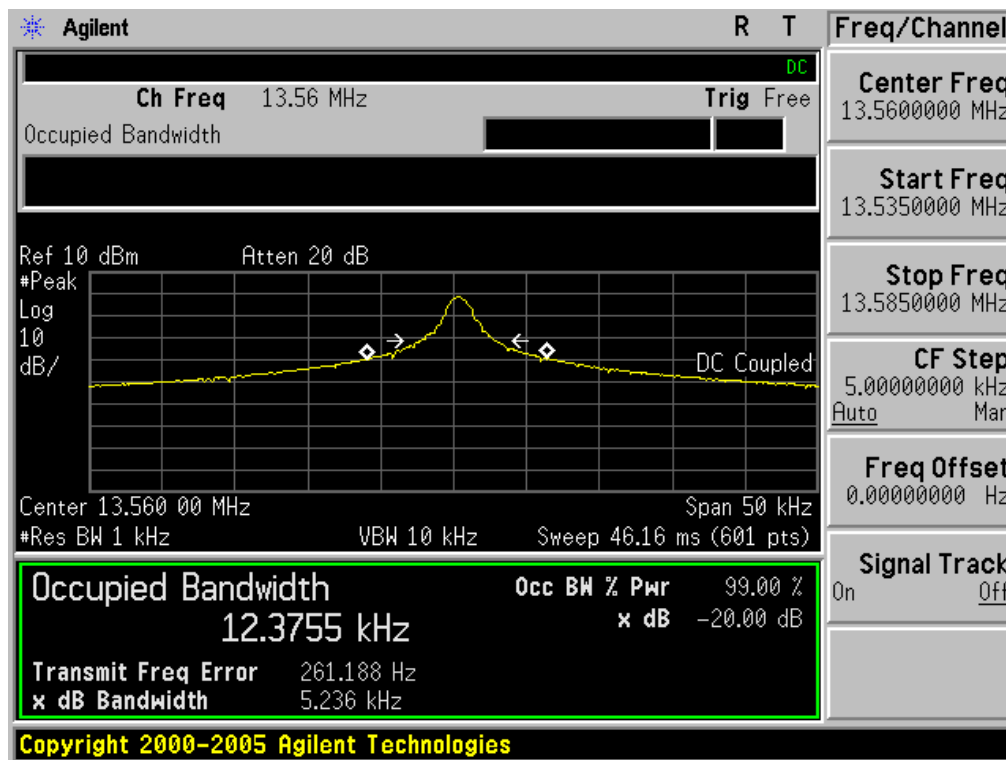
3.2.1 20dB Bandwidth Measurement (§2.1049)

- Procedure:

The 20dB Bandwidth is measured with a spectrum analyzer connected via a receive antenna placed near the EUT while the EUT is operating in transmission mode.

- Measurement Data: Comply

Tested Frequency(MHz)	Test Results(KHz)
13.56	5.236



- Minimum Standard:

None

3.2.2 In-Band Radiated Spurious Emission (§15.225(a), (b), (c))

- Procedure:

The EUT was placed on a 0.8m high wooden table inside a shielded enclosure. An antenna was placed near the EUT and measurements of frequencies and amplitudes of field strengths were recorded for reference during final measurements. For final radiated testing, measurements were performed in OATS. Measurements were performed with the EUT oriented in 3 orthogonal axis and rotated 360 degrees to determine worst-case orientation for maximum emissions.

- Measurement Data: Comply

Frequency Band [MHz]	Frequency [MHz]	EUT Posi.	Reading Level [dBuV]	T.F	Field Strength @3m [dBuV/m]	Field Strength @30m [dBuV/m]	Limit [dBuV/m]	Margin [dB]
13.110 ~ 13.410	13.346	Z	47.70	-13.00	34.70	-5.30	40.51	45.81
13.410 ~ 13.553	13.553	Y	65.60	-13.00	52.60	12.60	50.47	37.87
13.553 ~ 13.567	13.561	Y	70.40	-13.00	57.40	17.40	84.00	66.60
13.567 ~ 13.710	13.569	Y	65.10	-13.00	52.10	12.10	50.47	38.37
13.710 ~ 14.010	13.772	Z	47.00	-13.00	34.00	-6.00	40.51	46.51

Note 1. This test item was performed using a loop antenna at 3 meters.

Note 2. The results were extrapolated to the specified measurement distance of 30m using the square of an inverse linear distance extrapolation factor (40 dB/decade) as specified in §15.31(f)2.

▪ Extrapolation Factor = $20 \log_{10}(30/3)^2 = 40\text{dB}$

Note 3. All data were recorded using a spectrum analyzer employing a peak detector.

PK results were meet Quasi-peak limit. So Quasi-peak measurements were omitted.

Note 4. No other spurious and harmonic emissions were reported greater than listed emissions on above table.

Note 5. Sample Calculation.

Margin = Limit – Field Strength @ 30m / Field Strength @ 30m = Field Strength @ 3m – 40

Field Strength @ 3m = Reading + T.F / T.F = AF + CL – AG

Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain

- Minimum Standard

Frequency Band [MHz]	Limit	
	[uV/m]	[dBuV/m]
13.553-13.567	15,848	84.00
13.410-13.553 13.567-13.710	334	50.47
13.110-13.410 13.710-14.010	106	40.51

3.2.3 Radiated Spurious Emission Measurements, Out-of-Band (§15.225(d) / §15.205 and 209)

- Procedure:

The EUT was tested from 9kHz up to the 1GHz excluding the band 13.110-14.010MHz. All measurements were recorded with spectrum analyzer employing a peak detector for emissions below 30MHz. Above 30MHz a Quasi-peak detector was used. All out-of-band emissions must not exceed the limits §15.209. A loop antenna was used for searching for emissions below 30MHz.

- Measurement Data: **Comply** (refer to the next page)

- Minimum Standard

▪ **FCC Part 15.205 (a):** Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	3.6 ~ 4.4	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	4.5 ~ 5.15	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~ 12.52025	149.9 ~ 150.05	1645.5 ~ 1646.5	5.35 ~ 5.46	17.7 ~ 21.4
4.125 ~ 4.128	12.57675 ~ 12.57725	156.52475 ~ 156.52525	1660 ~ 1710	7.25 ~ 7.75	22.01 ~ 23.12
4.17725 ~ 4.17775	13.36 ~ 13.41	156.7 ~ 156.9	1718.8 ~ 1722.2	8.025 ~ 8.5	23.6 ~ 24.0
4.20725 ~ 4.20775	16.42 ~ 16.423	162.0125 ~ 167.17	2200 ~ 2300	9.0 ~ 9.2	31.2 ~ 31.8
6.215 ~ 6.218	16.69475 ~ 16.69525	167.72 ~ 173.2	2310 ~ 2390	9.3 ~ 9.5	36.43 ~ 36.5
6.26775 ~ 6.26825	16.80425 ~ 16.80475	240 ~ 285	2483.5 ~ 2500	10.6 ~ 12.7	Above 38.6
6.31175 ~ 6.31225	25.5 ~ 25.67	322 ~ 335.4	2655 ~ 2900	13.25 ~ 13.4	
8.291 ~ 8.294	37.5 ~ 38.25	399.90 ~ 410	3260 ~ 3267		
8.362 ~ 8.366	73 ~ 74.6	608 ~ 614	3332 ~ 3339		
8.37625 ~ 8.38675	74.8 ~ 75.2	960 ~ 1240	3345.8 ~ 3358		

▪ **FCC Part 15.205(b):**

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

▪ **FCC Part 15.209(a):**

Frequency [MHz]	Field Strength [uV/m]	Measurement Distance [Meters]
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30	30	30
30 ~ 88	100 **	3
88 ~ 216	150 **	3
216 ~ 960	200 **	3
Above 960	200	3

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88MHz, 174-216MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

▪ **FCC Part 15.209(b):**

In the emission table above, the tighter limit applies at the band edges.

Tested Frequency	:	<u>13.56MHz</u>
Measurement Distance	:	3 Meters

Note 1. All measurements were recorded using a spectrum analyzer employing a peak detector for below 30MHz and a Quasi-peak detector for above 30MHz.

Note 2. Both Vertical and Horizontal polarities of the receiver antenna were evaluated with the worst case emissions being reported.

Note 3. No other spurious and harmonic emissions were reported greater than listed emissions on above table.

Note 4. Sample calculation
Margin = Limit – Field Strength / T.F = AF + CL – AG
Distance factor = 20log(Measurement distance / The measured distance)
Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain

3.2.4 Frequency Stability (§15.225(e))

- Procedure:

Part 15.225 requires that devices operating in the 13.553 – 13.567 MHz shall maintain the carrier frequency within 0.01% of the operating frequency over the temperature variation of -20 degrees to + 50 degrees C at normal supply voltage.

- Measurement Data: **Comply**

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	Frequency (Hz)	Error (Hz)	Deviation (%)
100%	3.700	+23(ref)	13,560,339	339	0.002500
100%		-20	13,560,398	398	0.002935
100%		-10	13,560,423	423	0.003119
100%		0	13,560,438	438	0.003230
100%		+10	13,560,424	424	0.003127
100%		+20	13,560,350	350	0.002581
100%		+30	13,560,308	308	0.002271
100%		+40	13,560,244	244	0.001799
100%		+50	13,560,180	180	0.001327
85%	3.145	+25	13,560,345	345	0.002544
115%	4.255	+25	13,560,349	349	0.002574
BATT.ENDPOINT	2.700	+25	13,560,306	306	0.002257

- Minimum Standard

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency.

3.2.5 AC Line Conducted Emissions (§15.207/EN 55022)

- Procedure:

The conducted emissions are measured in the shielded room with a spectrum analyzer in peak hold. While the measurement, EUT had its hopping function disabled at the middle channels in line with Section 15.21(m). Emissions closest to the limit are measured in the quasi-peak and average detector mode with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation and Exerciser operation. The highest emissions relative to the limit are listed.

- Measurement Data: Comply (refer to the next page)

Note.: This test item was made with a suitable dummy load connected to the antenna output terminals

- Minimum Standard: FCC Part 15.207(a)

Frequency Range (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency

- Measurement Data:



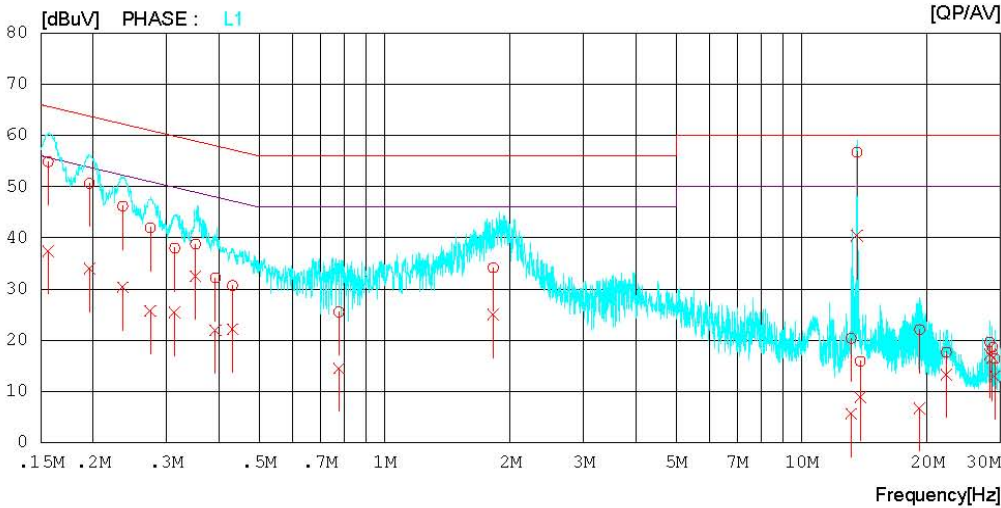
Results of Conducted Emission

Digital EMC
Date : 2011/04/22

Model No. : LG-T530
Type :
Serial No. : N/A
Test Condition : NFC mode
Reference No. : FCC PART.15C
Power Suppl : 120V 60Hz
Temp/Humi. : 23 C 38%
Operator : S. K. RYU

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



NO	FREQ [MHz]	READING		C.FACTOR	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.15601	54.7	37.3	0.1	54.8	37.4	65.7	55.7	10.9	18.3	L1
2	0.19596	50.5	33.9	0.1	50.6	34.0	63.8	53.8	13.2	19.8	L1
3	0.23535	46.1	30.2	0.1	46.2	30.3	62.3	52.3	16.1	22.0	L1
4	0.27411	41.9	25.6	0.1	42.0	25.7	61.0	51.0	19.0	25.3	L1
5	0.31361	37.9	25.3	0.1	38.0	25.4	59.9	49.9	21.9	24.5	L1
6	0.35150	38.7	32.4	0.1	38.8	32.5	58.9	48.9	20.1	16.4	L1
7	0.39254	32.1	21.9	0.1	32.2	22.0	58.0	48.0	25.8	26.0	L1
8	0.43138	30.5	22.0	0.1	30.6	22.1	57.2	47.2	26.6	25.1	L1
9	0.77631	25.3	14.3	0.2	25.5	14.5	56.0	46.0	30.5	31.5	L1
10	1.82100	34.0	24.8	0.2	34.2	25.0	56.0	46.0	21.8	21.0	L1
11	13.13650	19.8	5.1	0.5	20.3	5.6	60.0	50.0	39.7	44.4	L1
12	13.56050	56.2	39.9	0.5	56.7	40.4	60.0	50.0	3.3	9.6	L1
13	13.81550	15.4	8.4	0.5	15.9	8.9	60.0	50.0	44.1	41.1	L1
14	19.17100	21.5	6.1	0.6	22.1	6.7	60.0	50.0	37.9	43.3	L1
15	22.22150	16.9	12.6	0.7	17.6	13.3	60.0	50.0	42.4	36.7	L1
16	28.23100	18.8	16.5	0.8	19.6	17.3	60.0	50.0	40.4	32.7	L1
17	28.63100	17.7	15.6	0.9	18.6	16.5	60.0	50.0	41.4	33.5	L1
18	29.03650	15.5	12.1	0.9	16.4	13.0	60.0	50.0	43.6	37.0	L1

Results of Conducted Emission

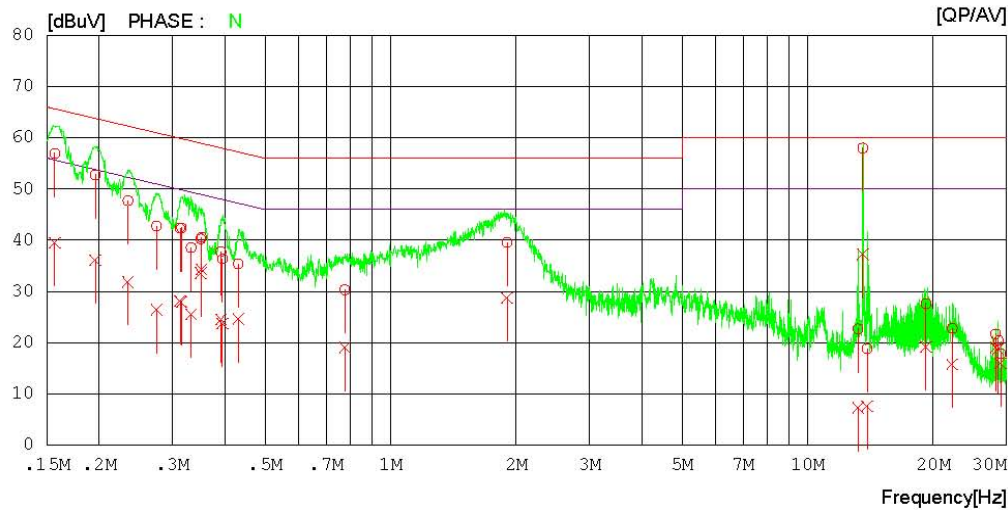
Digital EMC
Date : 2011/04/22

Model No. : LG-T530
Type :
Serial No. : N/A
Test Condition : NFC mode

Reference No. : FCC PART.15C
Power Supply : 120V 60Hz
Temp/Humi. : 23°C 38%
Operator : S. K. RYU

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.15649	56.8	39.4	0.1	56.9	39.5	65.6	55.6	8.7	16.1	N
2	0.19568	52.7	36.0	0.1	52.8	36.1	63.8	53.8	11.0	17.7	N
3	0.23441	47.6	31.7	0.1	47.7	31.8	62.3	52.3	14.6	20.5	N
4	0.27440	42.7	26.3	0.1	42.8	26.4	61.0	51.0	18.2	24.6	N
5	0.31263	42.3	28.1	0.1	42.4	28.2	59.9	49.9	17.5	21.7	N
6	0.31484	42.3	27.8	0.1	42.4	27.9	59.8	49.8	17.4	21.9	N
7	0.33229	38.5	25.4	0.1	38.6	25.5	59.4	49.4	20.8	23.9	N
8	0.35039	40.2	33.5	0.1	40.3	33.6	59.0	49.0	18.7	15.4	N
9	0.35174	40.4	34.2	0.1	40.5	34.3	58.9	48.9	18.4	14.6	N
10	0.39156	37.6	24.4	0.1	37.7	24.5	58.0	48.0	20.3	23.5	N
11	0.39478	36.3	23.6	0.1	36.4	23.7	58.0	48.0	21.6	24.3	N
12	0.43096	35.3	24.6	0.1	35.4	24.7	57.2	47.2	21.8	22.5	N
13	0.77603	30.1	18.8	0.2	30.3	19.0	56.0	46.0	25.7	27.0	N
14	1.90150	39.3	28.5	0.2	39.5	28.7	56.0	46.0	16.5	17.3	N
15	13.20650	22.2	6.8	0.5	22.7	7.3	60.0	50.0	37.3	42.7	N
16	13.56000	57.5	36.7	0.5	58.0	37.2	60.0	50.0	2.0	12.8	N
17	13.87550	18.3	7.1	0.5	18.8	7.6	60.0	50.0	41.2	42.4	N
18	19.21150	27.0	18.5	0.6	27.6	19.1	60.0	50.0	32.4	30.9	N
19	22.22400	22.1	15.0	0.7	22.8	15.7	60.0	50.0	37.2	34.3	N
20	28.23100	20.9	18.3	0.8	21.7	19.1	60.0	50.0	38.3	30.9	N
21	28.63150	19.5	17.8	0.9	20.4	18.7	60.0	50.0	39.6	31.3	N
22	29.03200	17.0	15.1	0.9	17.9	16.0	60.0	50.0	42.1	34.0	N

APPENDIX

TEST EQUIPMENT FOR TESTS

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment.

	Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
☒	Spectrum Analyzer	Agilent	E4440A	10/09/30	11/09/30	MY45304199
☐	Spectrum Analyzer	Rohde Schwarz	FSQ26	11/01/11	12/01/11	200445
☐	Spectrum analyzer	Agilent	E4404B	11/03/08	12/03/08	US41061134
☐	Spectrum Analyzer(RE)	H.P	8563E	10/10/04	11/10/04	3551A04634
☐	MXA Signal Analyzer	Agilent Technologies, Inc	N9020A	11/01/07	12/01/07	MY49100833
☐	Power Meter	H.P	EPM-442A	10/07/01	11/07/01	GB37170413
☐	Power Sensor	H.P	8481A	10/07/01	11/07/01	3318A96332
☐	Power Divider	Agilent	11636B	10/10/05	11/10/05	56471
☐	4-Way Power Divider	ET Industries	D-0526-4	10/12/24	11/12/24	210195001
☐	Power Splitter	Anritsu	K241B	10/10/05	11/10/05	020611
☐	Power Splitter	Anritsu	K241B	10/07/01	11/07/01	017060
☐	Power Splitters & Dividers	Aeroflex/Weinschel	1594	11/02/21	12/02/21	1177
☐	Frequency Counter	H.P	5342A	10/07/01	11/07/01	2119A04450
☒	TEMP & HUMIDITY Chamber	JISCO	KR-100/J-RHC2	10/10/04	11/10/04	30604493/021031
☒	Digital Multimeter	H.P	34401A	11/03/07	12/03/07	3146A13475, US36122178
☐	Multifunction Synthesizer	HP	8904A	10/10/11	11/10/11	3633A08404
☐	Signal Generator	Rohde Schwarz	SMR20	11/03/08	12/03/08	101251
☐	Signal Generator	H.P	ESG-3000A	10/07/01	11/07/01	US37230529
☐	Vector Signal Generator	Rohde Schwarz	SMJ100A	11/01/11	12/01/11	100148
☐	Vector Signal Generator	Rohde Schwarz	SMBV100A	11/01/11	12/01/11	255571
☐	Audio Analyzer	H.P	8903B	10/07/02	11/07/02	3011A09448
☐	Modulation Analyzer	H.P	8901B	10/07/01	11/07/01	3028A03029
☐	8960 Series 10 Wireless Comms. Test Set	Agilent	E5515C	11/03/07	12/03/07	GB43461134
☐	Universal Radio communication Tester	Rohde Schwarz	CMU200	11/03/07	12/03/07	106760
☐	Bluetooth Tester	TESCOM	TC-3000B	10/07/01	11/07/01	3000B000268
☒	Thermo hygrometer	BODYCOM	BJ5478	11/01/13	12/01/13	090205-3
☐	Thermo hygrometer	BODYCOM	BJ5478	11/01/13	12/01/13	090205-2
☐	Thermo hygrometer	BODYCOM	BJ5478	11/01/13	12/01/13	090205-4
☐	AC Power supply	DAEKWANG	5KVA	11/03/08	12/03/08	20060321-1
☒	DC Power Supply	HP	6622A	11/03/07	12/03/07	3448A03760
☐	DC Power Supply	HP	6633A	11/03/07	12/03/07	3524A06634
☐	DC Power Supply	Protek	PWS-3010D	10/10/04	11/10/04	4072702
☐	BAND Reject Filter	Microwave Circuits	N0308372	10/10/05	11/10/05	3125-01DC0352
☐	BAND Reject Filter	Wainwright	WRCG1750	10/10/05	11/10/05	2
☐	High-Pass Filter	ANRITSU	MP526D	10/10/04	11/10/04	M27756
☐	High-pass filter	Wainwright	WHNX2.1	N/A	N/A	1
☐	High-pass filter	Wainwright	WHNX3.0	N/A	N/A	9
☐	High-pass filter	Wainwright	WHNX5.0	N/A	N/A	8

	Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
☐	High-Pass Filter	Wainwright	WHKX8.5	N/A	N/A	1
☐	High-Pass Filter	Wainwright	D82346	N/A	N/A	9
☐	Tunable Notch Filter	Wainwright	WRCT800.0 /960.0-0.2/40-8SSK	N/A	N/A	32
☐	Tunable Notch Filter	Wainwright	WRCD1700.0 /2000.0-0.2/40-10SSK	N/A	N/A	53
☐	Tunable Notch Filter	Wainwright	WRCT1900.0/ 2200.0-5/40-10SSK	N/A	N/A	30
☐	HORN ANT	ETS	3115	10/10/04	11/10/04	21097
☐	HORN ANT	ETS	3115	11/03/22	12/03/22	6419
☐	HORN ANT	A.H.Systems	SAS-574	11/03/25	13/03/25	154
☐	HORN ANT	A.H.Systems	SAS-574	11/03/25	13/03/25	155
☐	HORN ANT	SCHWARZBECK	BBHA9120A	10/04/13	12/04/13	322
☐	Dipole Antenna	Schwarzbeck	VHA9103	10/11/29	11/11/29	2116
☐	Dipole Antenna	Schwarzbeck	VHA9103	10/11/29	11/11/29	2117
☐	Dipole Antenna	Schwarzbeck	UHA9105	10/11/29	11/11/29	2261
☐	Dipole Antenna	Schwarzbeck	UHA9105	10/11/29	11/11/29	2262
☒	LOOP Antenna	ETS	6502	10/11/29	11/11/29	3471
☐	Coaxial Fixed Attenuators	Agilent	8491B	10/07/01	11/07/01	MY39260700
☐	Attenuator (3dB)	WEINSCHEL	56-3	10/10/05	11/10/05	Y2342
☐	Attenuator (3dB)	WEINSCHEL	56-3	10/10/05	11/10/05	Y2370
☐	Attenuator (10dB)	WEINSCHEL	23-10-34	10/10/01	11/10/01	BP4386
☐	Attenuator (10dB)	WEINSCHEL	23-10-34	11/01/11	12/01/11	BP4387
☐	Attenuator (10dB)	WEINSCHEL	86-10-11	10/10/05	11/10/05	446
☐	Attenuator (10dB)	WEINSCHEL	86-10-11	10/10/05	11/10/05	408
☐	Attenuator (20dB)	WEINSCHEL	86-20-11	10/10/05	11/10/05	432
☐	Attenuator (30dB)	JFW	50FH-030-300	11/03/07	12/03/07	060320-1
☐	Attenuator (40dB)	WEINSCHEL	57-40-33	10/10/01	11/10/01	NN837
☒	Termination	H.P	HP-909D	10/07/02	11/07/02	02750
☐	Termination	H.P	HP-909D	10/07/02	11/07/02	02702
☐	Type N Coaxial CIRCULATOR	NOVA MICROWAVE	0088CAN	10/07/01	11/07/01	788
☐	Type N Coaxial CIRCULATOR	NOVA MICROWAVE	0185CAN	10/07/01	11/07/01	790
☐	Type N Coaxial CIRCULATOR	NOVA MICROWAVE	0215CAN	10/07/01	11/07/01	112
☐	Amplifier (30dB)	Agilent	8449B	11/03/07	12/03/07	3008A01590
☐	Amplifier (30dB)	H.P	8449B	11/03/07	12/03/07	3008A00370
☐	Amplifier	EMPOWER	BBS3Q7ELU	10/10/04	11/10/04	1020
☐	RF Power Amplifier	OPHIRRF	5069F	10/07/01	11/07/01	1006
☒	EMI TEST RECEIVER	R&S	ESU	11/01/20	12/01/20	100014
☒	BILOG ANTENNA	SCHAFFNER	CBL6112B	10/07/14	11/07/14	2737
☒	Amplifier (22dB)	H.P	8447E	11/01/11	12/01/11	2945A02865
☐	EMI TEST RECEIVER	R&S	ESCI	11/03/08	12/03/08	100364

	Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
☐	BICONICAL ANT.	Schwarzbeck	VHA 9103	10/11/29	11/11/29	91032789
☐	LOG-PERIODIC ANT.	Schwarzbeck	UHALP9108A1	10/11/29	12/11/29	1098
☐	BICONICAL ANT.	Schwarzbeck	VHA 9103	10/12/21	12/12/21	91031946
☐	LOG-PERIODIC ANT.	Schwarzbeck	UHALP9108A1	10/07/07	11/07/07	0590
☐	Low Noise Pre Amplifier	TSJ	MLA-100K01-B01-2	11/03/07	12/03/07	1252741
☐	Low Noise Pre Amplifier	TSJ	MLA-00108-B02-36	11/01/11	12/01/11	1518831
☐	Amplifier (25dB)	Agilent	8447D	11/03/07	12/03/07	2944A10144
☐	Amplifier (25dB)	Agilent	8447D	10/07/01	11/07/01	2648A04922
☐	Spectrum Analyzer(CE)	H.P	8591E	11/03/07	12/03/07	3649A05889
☐	LISN	Kyoritsu	KNW-407	11/01/11	12/01/11	8-317-8
☐	LISN	Kyoritsu	KNW-242	10/07/02	11/07/02	8-654-15
☒	LISN	R&S	ESH2-Z5	10/10/01	11/10/01	828739006
☐	CVCF	NF Electronic	4420	11/03/08	12/03/08	304935/337980
☒	CVCF	NF Electronic	4420	11/03/08	12/03/08	3049354420023
☐	50 ohm Terminator	HME	CT-01	11/01/11	12/01/11	N/A
☐	RFI/FIELD Intensity Meter	Kyoritsu	KNM-2402	10/07/02	11/07/02	4N-170-3
☒	EMI TEST RECEIVER	R&S	ESCI	11/03/08	12/03/08	100364
☐	Wideband Radio Communication Tester	R&S	CMW500	10/10/21	11/10/21	100988