FCC RF Test Report

APPLICANT	**:**	**Honeywell International Inc.** **Honeywell Safety and Productivity Solutions**
EQUIPMENT	**:**	**RT10A**
BRAND NAME	**:**	**Honeywell**
MODEL NAME	**:**	**RT10AL1N**
FCC ID	**:**	**HD5-RT10AL1N**
STANDARD	**:**	**47 CFR Part 2, 22(H), 24(E), 27(L)**
CLASSIFICATION	**:**	**PCS Licensed Transmitter (PCB)**

The product was received on May 22, 2020 and completely tested on Jul. 13, 2020. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

This product installed a RF module (Brand Name: Honeywell, Model Name: SOM660W, FCC ID: HD5-660W) during the test, only ERP/EIRP and RSE test items are tested in this report, all the other test results are quoted on module RF report.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

James Huang

Approved by: James Huang / Manager

ACCREDITED Cert #5145.02

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG052222A	Rev. 01	Initial issue of report	Aug. 27, 2020

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(5)	Effective Radiated Power	< 7 Watts	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power	< 1 Watts	PASS	-
3.5	§24.232(d)	Peak-to-Average Ratio	< 13 dB	PASS	1
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	1
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Band Edge Measurement	< 43+10log10(P[Watts])	PASS	1
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Conducted Emission	< 43+10log10(P[Watts])	PASS	1
3.9	§2.1055 §22.355	Frequency Stability for Temperature & Voltage	< 2.5 ppm for Part 22H	PASS	1
	§2.1055 §24.235 §27.54		Within Authorized Band		
4.4	§2.1053; §22.917(a); §24.238(a); §27.53(h)	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	PASS	Under limit 5.43 dB at 1672.000 MHz

Note: All conducted test items were leveraged from module RF report which can refer to Report No. "RF171130C26" for Part 22H, "RF171130C26-1" for Part 24E, "RF171130C26-2" for Part 27L.

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

Honeywell International Inc.
Honeywell Safety and Productivity Solutions
9680 Old Bailes Rd. Fort Mill, SC 29707 United States

1.2 Manufacturer

Honeywell International Inc.
Honeywell Safety and Productivity Solutions
9680 Old Bailes Rd. Fort Mill, SC 29707 United States

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	RT10A
Brand Name	Honeywell
Model Name	RT10AL1N
FCC ID	HD5-RT10AL1N
EUT supports Radios application	CDMA/GSM/WCDMA/LTE/NFC/GNSS WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
IMEI Code	990016020002208
HW Version	V1.0
SW Version	OS.03.003-HON.02.001.DO
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	**GSM/GPRS/EDGE:** 850: 824.2 MHz ~ 848.8 MHz 1900: 1850.2 MHz ~ 1909.8MHz **WCDMA:** Band V: 826.4 MHz ~ 846.6 MHz Band II: 1852.4 MHz ~ 1907.6 MHz Band IV: 1712.4 MHz ~ 1752.6 MHz **CDMA2000:** BC0: 824.70 MHz ~ 848.31 MHz BC1: 1851.25 MHz ~ 1908.75 MHz
Rx Frequency	**GSM/GPRS/EDGE:** 850: 869.2 MHz ~ 893.8 MHz 1900: 1930.2 MHz ~ 1989.8 MHz **WCDMA:** Band V: 871.4 MHz ~ 891.6 MHz Band II: 1932.4 MHz ~ 1987.6 MHz Band IV: 2112.4 MHz ~ 2152.6 MHz **CDMA2000:** BC0: 869.70 MHz ~ 893.31 MHz BC1: 1931.25 MHz ~ 1988.75 MHz
Maximum Output Power to Antenna	**GSM/GPRS/EDGE:** 850: 33.43 dBm 1900: 30.35 dBm **WCDMA:** Band V: 24.34 dBm Band II: 23.96 dBm Band IV: 23.97 dBm **CDMA2000:** BC0: 24.48 dBm BC1: 24.56 dBm
Antenna Type	PIFA Antenna
Antenna Gain	Cellular Band: GSM/WCDMA:-0.44 dBi CDMA:-0.16 dBi PCS Band: 0.72 dBi AWS Band: 1.07 dBi
Type of Modulation	GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK HSDPA/DC-HSDPA : QPSK HSUPA : QPSK HSPA+ : 16QAM (16QAM uplink is not supported) DC-HSDPA : 64QAM CDMA2000 1xEV-DO: QPSK/8PSK

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum ERP/EIRP Power

FCC Rule	System	Type of Modulation	Maximum ERP/EIRP (W)	Frequency Tolerance (ppm)	Emission Designator
Part 22H	GSM850 GPRS class 8	GMSK	1.2134	-	-
Part 22H	GSM850 EDGE class 8	8PSK	0.3350	-	-
Part 22H	WCDMA Band V RMC 12.2Kbps	BPSK	0.1496	-	-
Part 22H	CDMA2000 BC0 1xEV-DO	QPSK	0.1648	-	-
Part 24E	GSM1900 GPRS class 8	GMSK	1.2794	-	-
Part 24E	GSM1900 EDGE class 8	8PSK	0.5188	-	-
Part 24E	WCDMA Band II RMC 12.2Kbps	BPSK	0.2938	-	-
Part 24E	CDMA2000 BC1 1xEV-DO	QPSK	0.2512	-	-
Part 27L	WCDMA Band IV RMC 12.2Kbps	BPSK	0.3192	-	-

1.7 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24a

1.9 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 22(H), 24(E), 27(L)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

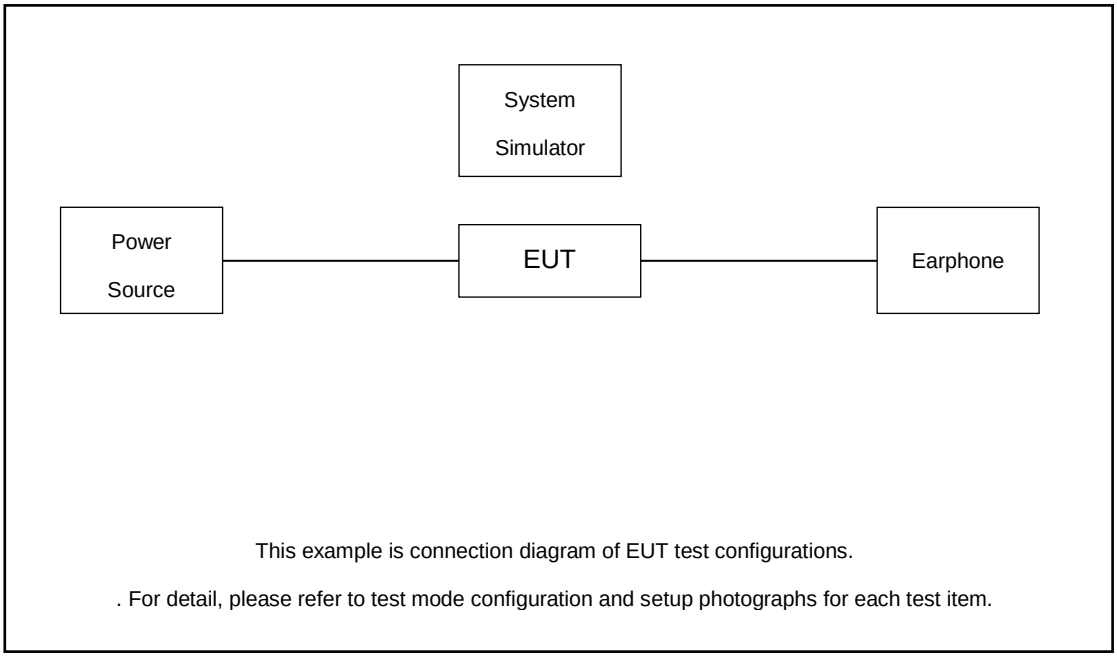
1. 30 MHz to 10th harmonic for GSM850 and WCDMA Band V and CDMA BC0.
2. 30 MHz to 10th harmonic for WCDMA Band IV.
3. 30 MHz to 10th harmonic for GSM1900 and WCDMA Band II and CDMA BC1.

All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

Test Modes		
Band	**Radiated TCs**	**Conducted TCs**
GSM 850	■ GPRS class 8 Link ■ EDGE class 8 Link	■ GPRS class 8 Link ■ EDGE class 8 Link
GSM 1900	■ GPRS class 8 Link ■ EDGE class 8 Link	■ GPRS class 8 Link ■ EDGE class 8 Link
WCDMA Band V	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
WCDMA Band II	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
WCDMA Band IV	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
CDMA BC0	■ 1xEV-DO Link	■ 1xEV-DO Link
CDMA BC1	■ 1xEV-DOLink	■ 1xEV-DO Link

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	Earphone	Lenovo	P121	N/A	Unshielded,1.2m	N/A

2.4 Frequency List of Low/Middle/High Channels

Frequency List				
Band	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
GSM850	Channel	128	189	251
	Frequency	824.2	836.4	848.8
WCDMA Band V	Channel	4132	4182	4233
	Frequency	826.4	836.4	846.6
GSM1900	Channel	512	661	810
	Frequency	1850.2	1880.0	1909.8
WCDMA Band II	Channel	9262	9400	9538
	Frequency	1852.4	1880.0	1907.6
WCDMA Band IV	Channel	1312	1413	1513
	Frequency	1712.4	1732.6	1752.6
CDMA200 BC0	Channel	1013	384	777
	Frequency	824.7	836.52	848.31
CDMA200 BC1	Channel	25	600	1175
	Frequency	1851.25	1880.0	1908.75

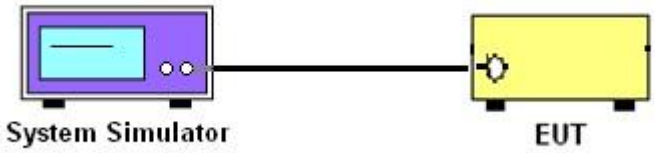
3 Conducted Test Result

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.2 Test Setup

3.2.1 Conducted Output Power



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

3.4.1 Description of the Conducted Output Power and ERP/EIRP

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for GSM850 and WCDMA Band V and CDMA BC0

The EIRP of mobile transmitters must not exceed 2 Watts for GSM1900 and WCDMA Band II and CDMA BC1.

The EIRP of mobile transmitters must not exceed 1 Watts for WCDMA Band IV.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

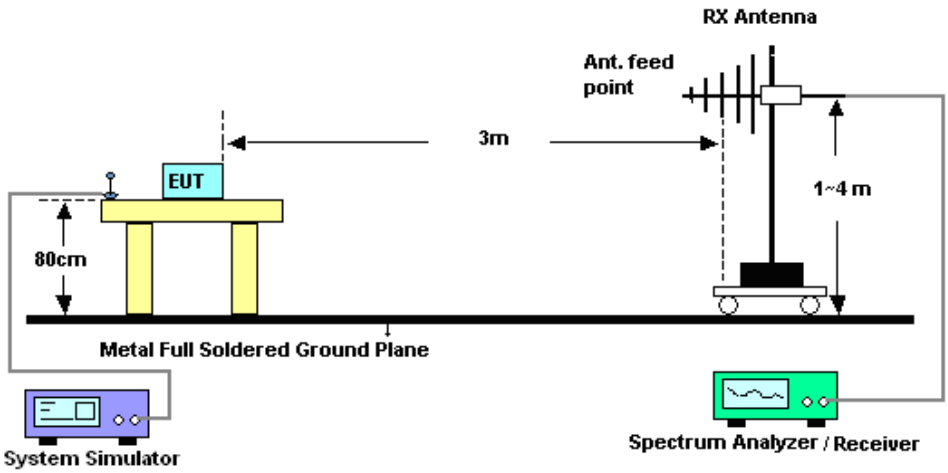
4 Radiated Test Items

4.1 Measuring Instruments

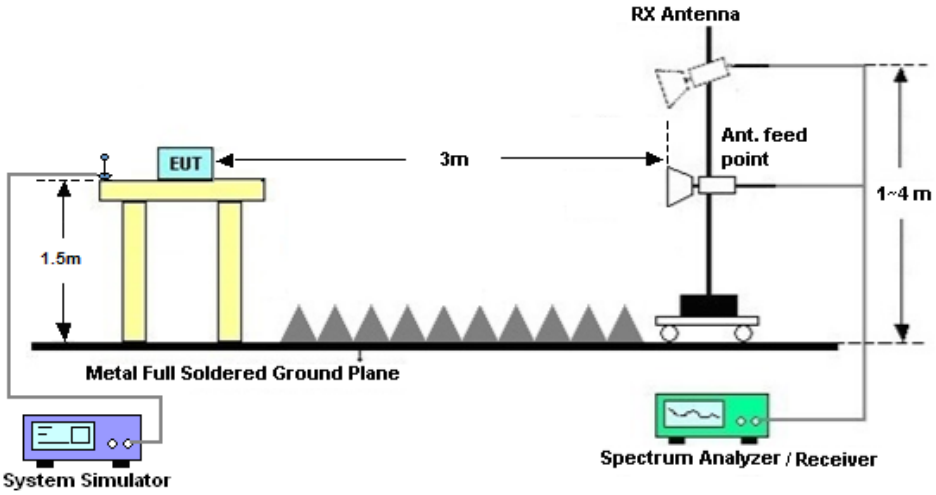
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

4.4 Field Strength of Spurious Radiation Measurement

4.4.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a rotatable wooden table 0.8 meters for frequency below 1GHz and 1.5 meter for frequency above 1GHz above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 15, 2020	Jul. 13, 2020	Apr. 14, 2021	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Jan. 02, 2020	Jul. 13, 2020	Jan. 01, 2021	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1356	1GHz~18GHz	Apr. 20, 2020	Jul. 13, 2020	Apr. 19, 2021	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 10, 2019	Jul. 13, 2020	Nov. 09, 2020	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 02, 2020	Jul. 13, 2020	Jan. 01, 2021	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 08, 2020	Jul. 13, 2020	Jan. 07, 2021	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Jan. 02, 2020	Jul. 13, 2020	Jan. 01, 2021	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 15, 2019	Jul. 13, 2020	Oct. 14, 2020	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jul. 13, 2020	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jul. 13, 2020	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jul. 13, 2020	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.3dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

Conducted Power (*Unit: dBm)						
Band	GSM850			GSM1900		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880.0	1909.8
GPRS 1 Tx slots	33.43	33.37	33.34	30.35	29.94	29.88
GPRS 2 Tx slots	30.33	30.27	30.26	27.53	27.13	27.10
GPRS 3 Tx slots	28.22	28.21	28.18	25.33	24.98	24.90
GPRS 4 Tx slots	26.87	26.93	26.83	24.11	23.67	23.88
EGPRS 1 Tx slots	27.84	27.62	27.57	26.43	26.41	26.33
EGPRS 2 Tx slots	24.63	24.39	24.37	23.31	23.29	23.25
EGPRS 3 Tx slots	22.73	22.49	22.53	21.47	21.45	21.40
EGPRS 4 Tx slots	21.37	21.19	21.13	20.15	20.13	20.08

Conducted Power (*Unit: dBm)									
Band	WCDMA Band V			WCDMA Band II			WCDMA Band IV		
Channel	4132	4182	4233	9262	9400	9538	1312	1413	1513
Frequency	826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.6
RMC 12.2K	24.34	24.27	24.21	23.96	23.79	23.85	23.80	23.94	23.97
HSDPA Subtest-1	23.49	23.34	23.35	22.99	22.90	22.84	22.91	22.98	22.85
HSDPA Subtest-2	23.45	23.43	23.41	22.99	22.90	22.89	22.90	23.00	22.89
HSDPA Subtest-3	22.93	22.91	22.95	22.44	22.43	22.42	22.38	22.42	22.35
HSDPA Subtest-4	22.93	22.92	22.92	22.44	22.45	22.34	22.45	22.49	22.36
DC-HSDPA Subtest-1	23.18	23.00	23.11	22.68	22.53	22.50	22.61	22.53	22.41
DC-HSDPA Subtest-2	23.11	23.10	23.01	22.64	22.50	22.47	22.49	22.50	22.41
DC-HSDPA Subtest-3	22.59	22.54	22.61	22.10	22.04	22.01	22.01	22.01	22.06
DC-HSDPA Subtest-4	22.52	22.60	22.54	22.05	22.01	22.03	22.06	22.04	22.01
HSUPA Subtest-1	23.36	23.40	23.43	22.98	22.95	22.87	22.92	22.89	22.84
HSUPA Subtest-2	21.43	21.42	21.43	20.97	20.90	20.93	20.96	20.98	20.84
HSUPA Subtest-3	22.49	22.40	22.39	21.99	21.91	21.93	21.97	21.92	21.88
HSUPA Subtest-4	21.42	21.39	21.39	20.92	20.95	20.91	20.92	20.98	20.89
HSUPA Subtest-5	23.46	23.50	23.50	23.00	22.90	22.90	22.95	22.95	22.75

Conducted Power (*Unit: dBm)						
Band	CDMA 2000 BC0			CDMA 2000 BC1		
Channel	1013	384	777	25	600	1175
Frequency	824.7	836.52	848.31	1851.25	1880	1908.75
RTAP 153.6Kbps	24.45	24.48	24.28	23.25	23.28	23.19
RETAP 4096Bits	24.46	24.47	24.27	23.23	23.25	23.20

ERP/EIRP

GSM850 (G_T - L_C= -0.44 dB)			
Channel	128	189	251
	(Low)	(Mid)	(High)
Frequency (MHz)	824.2	836.4	848.8
Conducted Power (dBm)	33.43	33.37	33.34
Conducted Power (Watts)	2.2029	2.1727	2.1577
ERP(dBm)	30.84	30.78	30.75
ERP(Watts)	1.2134	1.1967	1.1885

EDGE850 (G_T - L_C= -0.44 dB)			
Channel	128	189	251
	(Low)	(Mid)	(High)
Frequency (MHz)	824.2	836.4	848.8
Conducted Power (dBm)	27.84	27.62	27.57
Conducted Power (Watts)	0.6081	0.5781	0.5715
ERP(dBm)	25.25	25.03	24.98
ERP(Watts)	0.3350	0.3184	0.3148

GSM1900 (G_T - L_C= 0.72 dB)			
Channel	512	661	810
	(Low)	(Mid)	(High)
Frequency (MHz)	1850.2	1880	1909.8
Conducted Power (dBm)	30.35	29.94	29.88
Conducted Power (Watts)	1.0839	0.9863	0.9727
EIRP(dBm)	31.07	30.66	30.60
EIRP(Watts)	1.2794	1.1641	1.1482

EDGE1900 (G_T - L_C= 0.72 dB)			
Channel	512	661	810
	(Low)	(Mid)	(High)
Frequency (MHz)	1850.2	1880	1909.8
Conducted Power (dBm)	26.43	26.41	26.33
Conducted Power (Watts)	0.4395	0.4375	0.4295
EIRP(dBm)	27.15	27.13	27.05
EIRP(Watts)	0.5188	0.5164	0.5070

WCDMA Band V (G_T - L_C = -0.44 dB)			
Channel	4132	4182	4233
	(Low)	(Mid)	(High)
Frequency (MHz)	826.4	836.4	846.6
Conducted Power (dBm)	24.34	24.27	24.21
Conducted Power (Watts)	0.2716	0.2673	0.2636
ERP(dBm)	21.75	21.68	21.62
ERP(Watts)	0.1496	0.1472	0.1452

WCDMA Band II (G_T - L_C = 0.72 dB)			
Channel	9262	9400	9538
	(Low)	(Mid)	(High)
Frequency (MHz)	1852.4	1880	1907.6
Conducted Power (dBm)	23.96	23.79	23.85
Conducted Power (Watts)	0.2489	0.2393	0.2427
EIRP(dBm)	24.68	24.51	24.57
EIRP(Watts)	0.2938	0.2825	0.2864

WCDMA Band IV (G_T - L_C = 1.07 dB)			
Channel	1312	1413	1513
	(Low)	(Mid)	(High)
Frequency (MHz)	1712.4	1732.6	1752.6
Conducted Power (dBm)	23.80	23.94	23.97
Conducted Power (Watts)	0.2399	0.2477	0.2495
EIRP(dBm)	24.87	25.01	25.04
EIRP(Watts)	0.3069	0.3170	0.3192

CDMA 2000 BC0 (G_T - L_C = -0.16 dB)			
Channel	1013	384	777
	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.52	848.31
Conducted Power (dBm)	24.45	24.48	24.28
Conducted Power (Watts)	0.2786	0.2805	0.2679
ERP(dBm)	22.14	22.17	21.97
ERP(Watts)	0.1637	0.1648	0.1574

CDMA 2000 BC1 (G_T - $L_{C=}$ 0.72 dB)			
Channel	25	600	1175
	(Low)	(Mid)	(High)
Frequency (MHz)	1851.25	1880	1908.75
Conducted Power (dBm)	23.25	23.28	23.19
Conducted Power (Watts)	0.2113	0.2128	0.2084
EIRP(dBm)	23.97	24.00	23.91
EIRP(Watts)	0.2495	0.2512	0.2460

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

GSM850 (GPRS class 8)								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1648	-19.14	-13	-6.14	-26.11	1.58	10.70	H
	2472	-26.92	-13	-13.92	-35.17	2.102	12.50	H
	3294	-41.81	-13	-28.81	-50.70	2.856	13.90	H
	4122	-46.08	-13	-33.08	-54.54	2.689	13.30	H
	4944	-47.17	-13	-34.17	-54.93	3.093	13.00	H
	5772	-53.01	-13	-40.01	-61.78	3.178	14.10	H
	6594	-51.45	-13	-38.45	-58.69	3.306	12.70	H
	1648	-20.11	-13	-7.11	-27.08	1.58	10.70	V
	2472	-28.65	-13	-15.65	-36.90	2.10	12.50	V
	3294	-41.30	-13	-28.30	-50.19	2.86	13.90	V
	4122	-38.47	-13	-25.47	-46.93	2.69	13.30	V
	4944	-53.57	-13	-40.57	-61.33	3.09	13.00	V
	5772	-48.57	-13	-35.57	-57.34	3.18	14.10	V
	6594	-52.68	-13	-39.68	-59.92	3.31	12.70	V
Middle	1672	-18.43	-13	-5.43	-25.40	1.58	10.70	H
	2510	-23.12	-13	-10.12	-31.37	2.102	12.50	H
	3348	-50.85	-13	-37.85	-59.74	2.856	13.90	H
	4182	-50.42	-13	-37.42	-58.88	2.689	13.30	H
	1672	-19.35	-13	-6.35	-26.32	1.58	10.70	V
	2510	-23.09	-13	-10.09	-31.34	2.10	12.50	V
	3348	-55.50	-13	-42.50	-64.39	2.86	13.90	V
	4182	-44.54	-13	-31.54	-53.00	2.69	13.30	V
Highest	1698	-21.91	-13	-8.91	-28.88	1.58	10.70	H
	2546	-36.52	-13	-23.52	-44.77	2.102	12.50	H
	3396	-55.74	-13	-42.74	-64.63	2.856	13.90	H
	4242	-54.84	-13	-41.84	-63.30	2.689	13.30	H
	1698	-30.41	-13	-17.41	-37.38	1.58	10.70	V
	2546	-38.50	-13	-25.50	-46.75	2.10	12.50	V
	3396	-49.47	-13	-36.47	-58.36	2.86	13.90	V
	4242	-48.62	-13	-35.62	-57.08	2.69	13.30	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

GSM850 (EDGE class 8)								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1648	-19.74	-13	-6.74	-26.71	1.58	10.70	H
	2472	-27.28	-13	-14.28	-35.53	2.102	12.50	H
	3294	-45.78	-13	-32.78	-54.67	2.856	13.90	H
	4122	-48.32	-13	-35.32	-56.78	2.689	13.30	H
	1648	-28.88	-13	-15.88	-35.85	1.58	10.70	V
	2472	-36.12	-13	-23.12	-44.37	2.10	12.50	V
	3294	-46.28	-13	-33.28	-55.17	2.86	13.90	V
	4122	-46.15	-13	-33.15	-54.61	2.69	13.30	V
Middle	1674	-19.59	-13	-6.59	-26.56	1.58	10.70	H
	2508	-30.85	-13	-17.85	-39.10	2.102	12.50	H
	3348	-41.03	-13	-28.03	-49.92	2.856	13.90	H
	4182	-45.06	-13	-32.06	-53.52	2.689	13.30	H
	5019	-49.54	-13	-36.54	-57.30	3.093	13.00	H
	5856	-53.21	-13	-40.21	-61.98	3.178	14.10	H
	1672	-25.22	-13	-12.22	-32.19	1.58	10.70	V
	2510	-32.43	-13	-19.43	-40.68	2.10	12.50	V
	3348	-45.74	-13	-32.74	-54.63	2.86	13.90	V
	4182	-44.79	-13	-31.79	-53.25	2.69	13.30	V
	5016	-54.54	-13	-41.54	-62.30	3.09	13.00	V
	5856	-53.96	-13	-40.96	-62.73	3.18	14.10	V
Highest	1698	-19.78	-13	-6.78	-26.75	1.58	10.70	H
	2546	-30.23	-13	-17.23	-38.48	2.102	12.50	H
	3396	-43.12	-13	-30.12	-52.01	2.856	13.90	H
	4242	-49.24	-13	-36.24	-57.70	2.689	13.30	H
	5094	-52.12	-13	-39.12	-59.88	3.093	13.00	H
	1698	-24.81	-13	-11.81	-31.78	1.58	10.70	V
	2546	-31.44	-13	-18.44	-39.69	2.10	12.50	V
	3396	-47.43	-13	-34.43	-56.32	2.86	13.90	V
	4242	-46.07	-13	-33.07	-54.53	2.69	13.30	V
	5094	-55.25	-13	-42.25	-63.01	3.09	13.00	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

GSM1900 (GPRS class 8)								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3699	-60.04	-13	-47.04	-72.30	2.64	14.90	H
	5550	-56.18	-13	-43.18	-68.04	2.94	14.80	H
	7400	-51.16	-13	-38.16	-60.93	3.39	13.16	H
	3700	-60.11	-13	-47.11	-72.37	2.64	14.90	V
	5550	-56.06	-13	-43.06	-67.92	2.94	14.80	V
	7400	-51.09	-13	-38.09	-60.86	3.39	13.16	V
Middle	3759	-59.65	-13	-46.65	-71.91	2.64	14.90	H
	5640	-55.83	-13	-42.83	-67.69	2.94	14.80	H
	7524	-51.07	-13	-38.07	-60.84	3.39	13.16	H
	3760	-59.59	-13	-46.59	-71.85	2.64	14.90	V
	5640	-55.82	-13	-42.82	-67.68	2.94	14.80	V
	7524	-50.97	-13	-37.97	-60.74	3.39	13.16	V
Highest	3819	-57.12	-13	-44.12	-69.38	2.64	14.90	H
	5730	-53.43	-13	-40.43	-65.29	2.94	14.80	H
	7644	-47.55	-13	-34.55	-57.32	3.39	13.16	H
	3819	-57.19	-13	-44.19	-69.45	2.64	14.90	V
	5730	-53.67	-13	-40.67	-65.53	2.94	14.80	V
	7644	-47.36	-13	-34.36	-57.13	3.39	13.16	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

GSM1900 (EDGE class 8)								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3699	-53.99	-13	-40.99	-66.25	2.641	14.90	H
	5550	-42.65	-13	-29.65	-54.51	2.94	14.80	H
	7404	-48.38	-13	-35.38	-58.15	3.39	13.16	H
	3699	-57.69	-13	-44.69	-69.95	2.64	14.90	V
	5550	-53.28	-13	-40.28	-65.14	2.94	14.80	V
	7404	-48.35	-13	-35.35	-58.12	3.39	13.16	V
Middle	3759	-57.28	-13	-44.28	-69.54	2.641	14.90	H
	5640	-53.35	-13	-40.35	-65.21	2.94	14.80	H
	7524	-48.16	-13	-35.16	-57.93	3.39	13.16	H
	3759	-56.98	-13	-43.98	-69.24	2.64	14.90	V
	5640	-53.57	-13	-40.57	-65.43	2.94	14.80	V
	7524	-48.11	-13	-35.11	-57.88	3.39	13.16	V
Highest	3819	-57.23	-13	-44.23	-69.49	2.64	14.90	H
	5730	-53.49	-13	-40.49	-65.35	2.94	14.80	H
	7644	-47.66	-13	-34.66	-57.43	3.39	13.16	H
	3819	-56.69	-13	-43.69	-68.95	2.64	14.90	V
	5730	-53.65	-13	-40.65	-65.51	2.94	14.80	V
	7644	-47.36	-13	-34.36	-57.13	3.39	13.16	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

WCDMA Band V(RMC 12.2Kbps)								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1650	-25.83	-13	-12.83	-32.80	1.58	10.70	H
	2476	-38.23	-13	-25.23	-46.48	2.102	12.50	H
	3305.6	-52.11	-13	-39.11	-61.00	2.856	13.90	H
	4132	-56.49	-13	-43.49	-64.95	2.689	13.30	H
	1652	-35.29	-13	-22.29	-42.26	1.58	10.70	V
	2478	-45.29	-13	-32.29	-53.54	2.10	12.50	V
	3305.6	-59.05	-13	-46.05	-67.94	2.86	13.90	V
	4132	-55.36	-13	-42.36	-63.82	2.69	13.30	V
Middle	1674	-23.90	-13	-10.90	-30.87	1.58	10.70	H
	2512	-37.11	-13	-24.11	-45.36	2.102	12.50	H
	3345	-50.98	-13	-37.98	-59.87	2.856	13.90	H
	4182	-56.73	-13	-43.73	-65.19	2.689	13.30	H
	1674	-31.55	-13	-18.55	-38.52	1.58	10.70	V
	2512	-44.00	-13	-31.00	-52.25	2.10	12.50	V
	3348	-58.65	-13	-45.65	-67.54	2.86	13.90	V
	4182	-54.44	-13	-41.44	-62.90	2.69	13.30	V
Highest	1694	-25.91	-13	-12.91	-32.88	1.58	10.70	H
	2542	-39.82	-13	-26.82	-48.07	2.102	12.50	H
	3386.4	-54.94	-13	-41.94	-63.83	2.856	13.90	H
	4233	-56.59	-13	-43.59	-65.05	2.689	13.30	H
	1694	-35.93	-13	-22.93	-42.90	1.58	10.70	V
	2542	-44.51	-13	-31.51	-52.76	2.10	12.50	V
	3386	-59.91	-13	-46.91	-68.80	2.86	13.90	V
	4233	-57.15	-13	-44.15	-65.61	2.69	13.30	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

WCDMA Band II(RMC 12.2Kbps)								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3705	-52.54	-13	-39.54	-64.80	2.64	14.90	H
	5556	-43.95	-13	-30.95	-55.81	2.94	14.80	H
	7404	-48.83	-13	-35.83	-58.60	3.39	13.16	H
	3705	-55.37	-13	-42.37	-67.63	2.64	14.90	V
	5556	-46.07	-13	-33.07	-57.93	2.94	14.80	V
	7404	-47.61	-13	-34.61	-57.38	3.39	13.16	V
Middle	3759	-50.14	-13	-37.14	-62.40	2.64	14.90	H
	5640	-39.21	-13	-26.21	-51.07	2.94	14.80	H
	7524	-47.56	-13	-34.56	-57.33	3.39	13.16	H
	3759	-54.35	-13	-41.35	-66.61	2.64	14.90	V
	5640	-38.68	-13	-25.68	-50.54	2.94	14.80	V
	7524	-47.54	-13	-34.54	-57.31	3.39	13.16	V
Highest	3816	-49.63	-13	-36.63	-61.89	2.641	14.90	H
	5724	-50.58	-13	-37.58	-62.44	2.94	14.80	H
	7632	-47.41	-13	-34.41	-57.18	3.39	13.16	H
	3816	-53.87	-13	-40.87	-66.13	2.64	14.90	V
	5724	-51.76	-13	-38.76	-63.62	2.94	14.80	V
	7632	-46.70	-13	-33.70	-56.47	3.39	13.16	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

WCDMA Band IV(RMC 12.2Kbps)								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3426	-50.67	-13	-37.67	-61.41	2.604	13.34	H
	5136	-49.95	-13	-36.95	-60.46	3.011	13.52	H
	6852	-49.87	-13	-36.87	-60.07	3.271	13.47	H
	3426	-52.20	-13	-39.20	-62.94	2.604	13.34	V
	5136	-50.30	-13	-37.30	-60.81	3.011	13.52	V
	6852	-50.42	-13	-37.42	-60.62	3.271	13.47	V
Middle	3465	-44.75	-13	-31.75	-55.49	2.604	13.34	H
	5199	-39.90	-13	-26.90	-50.41	3.011	13.52	H
	6936	-50.04	-13	-37.04	-60.24	3.271	13.47	H
	3465	-45.64	-13	-32.64	-56.38	2.604	13.34	V
	5199	-37.91	-13	-24.91	-48.42	3.011	13.52	V
	6936	-50.04	-13	-37.04	-60.24	3.271	13.47	V
Highest	3504	-47.09	-13	-34.09	-57.83	2.604	13.34	H
	5259	-54.39	-13	-41.39	-64.90	3.011	13.52	H
	7008	-50.19	-13	-37.19	-60.39	3.271	13.47	H
	3504	-48.75	-13	-35.75	-59.49	2.604	13.34	V
	5259	-53.14	-13	-40.14	-63.65	3.011	13.52	V
	7008	-49.77	-13	-36.77	-59.97	3.271	13.47	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

CDMA BC0(1xEV-DO)								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1650	-26.14	-13	-13.14	-33.11	1.58	10.70	H
	2474	-37.93	-13	-24.93	-46.18	2.102	12.50	H
	3300	-49.03	-13	-36.03	-57.92	2.856	13.90	H
	4122	-54.10	-13	-41.10	-62.56	2.689	13.30	H
	1650	-33.51	-13	-20.51	-40.48	1.58	10.70	V
	2474	-41.02	-13	-28.02	-49.27	2.10	12.50	V
	3300	-56.34	-13	-43.34	-65.23	2.86	13.90	V
	4122	-52.15	-13	-39.15	-60.61	2.69	13.30	V
Middle	1674	-21.46	-13	-8.46	-28.43	1.58	10.70	H
	2510	-38.20	-13	-25.20	-46.45	2.102	12.50	H
	3348	-48.80	-13	-35.80	-57.69	2.856	13.90	H
	4182	-53.10	-13	-40.10	-61.56	2.689	13.30	H
	1674	-31.89	-13	-18.89	-38.86	1.58	10.70	V
	2510	-37.65	-13	-24.65	-45.90	2.10	12.50	V
	3348	-54.43	-13	-41.43	-63.32	2.86	13.90	V
	4182	-49.13	-13	-36.13	-57.59	2.69	13.30	V
Highest	1696	-22.03	-13	-9.03	-29.00	1.58	10.70	H
	2544	-38.06	-13	-25.06	-46.31	2.102	12.50	H
	3396	-51.24	-13	-38.24	-60.13	2.856	13.90	H
	4242	-54.80	-13	-41.80	-63.26	2.689	13.30	H
	1696	-32.06	-13	-19.06	-39.03	1.58	10.70	V
	2544	-41.34	-13	-28.34	-49.59	2.10	12.50	V
	3396	-57.09	-13	-44.09	-65.98	2.86	13.90	V
	4242	-51.34	-13	-38.34	-59.80	2.69	13.30	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

CDMA BC1(1xEV-DO)								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3702	-51.90	-13	-38.90	-64.16	2.64	14.90	H
	5553	-45.33	-13	-32.33	-57.19	2.94	14.80	H
	7404	-47.73	-13	-34.73	-57.50	3.39	13.16	H
	3702	-49.48	-13	-36.48	-61.74	2.64	14.90	V
	5553	-46.55	-13	-33.55	-58.41	2.94	14.80	V
	7404	-46.74	-13	-33.74	-56.51	3.39	13.16	V
Middle	3759	-45.95	-13	-32.95	-58.21	2.64	14.90	H
	5640	-39.81	-13	-26.81	-51.67	2.94	14.80	H
	7524	-47.48	-13	-34.48	-57.25	3.39	13.16	H
	3759	-47.04	-13	-34.04	-59.30	2.64	14.90	V
	5640	-39.91	-13	-26.91	-51.77	2.94	14.80	V
	7524	-44.62	-13	-31.62	-54.39	3.39	13.16	V
Highest	3816	-46.80	-13	-33.80	-59.06	2.64	14.90	H
	5727	-43.61	-13	-30.61	-55.47	2.94	14.80	H
	7632	-47.46	-13	-34.46	-57.23	3.39	13.16	H
	3816	-46.97	-13	-33.97	-59.23	2.64	14.90	V
	5727	-46.09	-13	-33.09	-57.95	2.94	14.80	V
	7632	-44.54	-13	-31.54	-54.31	3.39	13.16	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.