FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E
&
INDUSTRY CANADA RSS-132 & RSS-133

TEST REPORT

For

PRO 8475

Trade Name:
MiTAC, Webfleet Solutions

Model: N653

Issued to

FCC:	**Mitac Digital Technology Corporation** **No.200, Wen Hwa 2nd Rd.,Kuei Shan Dist. Taoyuan, 33383 Taiwan**
IC:	**MiTAC Digital Technology Corporation** **No.200, Wenhua 2nd Rd., Guishan Dist. Taoyuan City 333 Taiwan**

Issued by

Compliance Certification Services Inc.
Wugu Laboratory
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City, Taiwan. (R.O.C.)
Issued Date: June 9, 2020

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	May 21, 2020	Initial Issue	ALL	Allison Chen
01	June 9, 2020	See the following note Rev.(01)	ALL	Allison Chen

Rev.(01)

1. Added test data for power table and radiated emission.

2. Revised product name: PRO 8475, and model name: N653.

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1. TEST RESULT CERTIFICATION

FCC Applicant:	Mitac Digital Technology Corporation No.200, Wen Hwa 2nd Rd.,Kuei Shan Dist. Taoyuan, 33383 Taiwan
IC Applicant:	MiTAC Digital Technology Corporation No.200, Wenhua 2nd Rd., Guishan Dist. Taoyuan City 333 Taiwan
Manufacturer:	MITAC COMPUTER (KUNSHAN) CO., LTD. No. 269, 2nd Avenue, District A, Comprehensive Free Trade Zone, Kunshan, Jiangsu, P.R. China
Equipment Under Test:	PRO 8475
Trade Name:	MiTAC, Webfleet Solutions
Model:	N653
Date of Test:	June 1 ~ 6, 2020

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 22 Subpart H & Part 24 Subpart E & IC RSS-132 Issue 3: January, 2013 and IC RSS-133 Issue 6: January, 2018	No non-compliance noted
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule FCC PART 22 Subpart H and PART 24 Subpart E

The test results of this report relate only to the tested sample identified in this report.

Approved by:

Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	PRO 8475
Model	N653
Model Discrepancy	Difference of the those trade names (list on this report) are just for marketing purpose only.
Trade	MiTAC, Webfleet Solutions
Received Date	April 7, 2020
Power Supply	1. Powered from Rechargeable Li-ion Polymer Battery. Rating: 3.7VDC, 4000mAh, 14.8Wh 2. Powered from Cradle Fleet cable 12/24V (Pogo power pin) USB Type-C 5V
Frequency Range	WCDMA / HSDPA / HSUPA Band II: 1852.4 ~ 1907.6 MHz WCDMA / HSDPA / HSUPA Band V: 826.4 ~ 846.6MHz
Antenna Gain	Antenna type: Integral Band II: 2.92 dBi Band V: 1.84 dBi

Remark:

1. *The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*
2. *For test mode WCDMA, HSUPA and HSDPA were pretest. The worst case was WCDMA in this test report*

3. TEST METHODOLOGY

Both conducted and radiated testing were performed according to FCC CFR 47, Part 2, Part 22 Subpart H and Part 24 Subpart E

The tests documented in this report were performed in accordance with IC RSS-132, SPSR503, RSS-133, SPSR510 and ANSI C63.26: 2015.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 DESCRIPTION OF TEST MODES

The EUT had been tested under operating condition.

The EUT be set in maximum power transmission via call box during testing.

3.2.1 The worst mode of measurement

Radiated Emission Measurement Above 1G	
Test Condition	**Radiated Emission Above 1G**
Power supply Mode	**Mode 1: EUT power by Battery** **Mode 2: EUT+Cradle**
Worst Mode	☒ **Mode 1** ☐ **Mode 2** ☐ **Mode 3** ☐ **Mode 4**
Worst Position	☐ **Placed in fixed position.** ☐ **Placed in fixed position at X-Plane (E2-Plane)** ☐ **Placed in fixed position at Y-Plane (E1-Plane)** ☒ **Placed in fixed position at Z-Plane (H-Plane)**

Radiated Emission Measurement Below 1G	
Test Condition	**Radiated Emission Below 1G**
Power supply Mode	**Mode 1: EUT power by Battery** **Mode 2: EUT+Cradle**
Worst Mode	☒ **Mode 1** ☐ **Mode 2** ☐ **Mode 3** ☐ **Mode 4**

Remark:

1. The worst mode was record in this test report.

2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(Z-Plane) were recorded in this report

3. AC power line conducted emission and for below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.

4. TEST SUMMERY

FCC Standard Section	IC Standard Secction	Report Section	Test Item	Result
-	-	2	Antenna Requirement	Pass
22.913(a), 24.232(c)	RSS-132, section 5.4 RSS-133, section 6.4	8.1	ERP and EIRP Measurement	Pass
22.917(a), 24.238(a)	RSS-132 section 5.5 RSS-133 section 6.5	8.2	Spurious Radiation Measurement	Pass

5. INSTRUMENT CALIBRATION

5.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

5.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: *Each piece of equipment is scheduled for calibration once a year.*

RF Conducted Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Coaxial Cable	Woken	WC12	CC003	06/28/2019	06/27/2020
Wideband Radio Communication Tester	R&S	CMW 500	116875	07/29/2019	07/28/2020
Software	N/A				

3M 966 Chamber Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Band Reject Filters	MICRO TRONICS	BRM 50702	120	02/25/2020	02/24/2021
Bilog Antenna	Sunol Sciences	JB3	A030105	07/26/2019	07/25/2020
Coaxial Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/25/2020	02/24/2021
Coaxial Cable	EMCI	EMC105	190914+25111	09/20/2019	09/19/2020
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/15/2020	01/14/2021
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	10/04/2019	10/03/2020
High Pass Filter	SOLVANG TECHNOLOGY INC.	STI15	9923	02/25/2020	02/24/2021
High Pass Filters	MICRO TRONICS	HPM13195	003	02/25/2020	02/24/2021
Horn Antenna	ETS LINDGREN	3116	00026370	12/18/2019	12/17/2020
Horn Antenna / Harmonic Mixer	A-INFOMW / ROHDE&SCHWARZ	LB-19-20-A / FS-Z60	J202020872 / 100142	12/09/2019	12/08/2021
Horn Antenna / Harmonic Mixer	ROHDE&SCHWARZ	FH-PP-110 / FS-Z110	10003 / 100096	12/09/2019	12/08/2021
Horn Antenna / Harmonic Mixer	ROHDE&SCHWARZ	FH-PP-75 / FS-Z75	10001 / 100162	12/09/2019	12/08/2021
Horn Antenna / Spectrum Analyzer Mixer	Radiometer Physics GmbH	FH-PP-170 / SAM-170	10003 / 20011	12/09/2019	12/08/2021
Horn Antenna / Spectrum Analyzer Mixer	Radiometer Physics GmbH	FH-PP-220 / SAM-220	10003 / 20013	12/09/2019	12/08/2021
Horn Antenna / Spectrum Analyzer Mixer	Radiometer Physics GmbH	FH-PP-325 / SAM-325	10007 / 20048	12/09/2019	12/08/2021
Loop Ant	COM-POWER	AL-130	121051	03/27/2020	03/26/2021
Pre-Amplifier	EMEC	EM330	060609	02/25/2020	02/24/2021
Pre-Amplifier	HP	8449B	3008A00965	02/25/2020	02/24/2021
Pre-Amplifier	MITEQ	AMF-6F-18004000-37-8P	985646	06/18/2019	06/17/2020
Signal Analyzer	Agilent	N9010A	MY52220817	03/19/2020	03/18/2021
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Software	e3 6.11-20180413				

5.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
3M Semi Anechoic Chamber / 30M~200M	+/- 4.12
3M Semi Anechoic Chamber / 200M~1000M	+/- 4.68
3M Semi Anechoic Chamber / 1G~8G	+/- 5.18
3M Semi Anechoic Chamber / 8G~18G	+/- 5.47
3M Semi Anechoic Chamber / 18G~26G	+/- 3.81
3M Semi Anechoic Chamber / 26G~40G	+/- 3.87

***Remark**: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.*

6. FACILITIES AND ACCREDITATIONS

6.1 FACILITIES

☐ No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.
Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan. (R.O.C.)
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

6.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

7. SETUP OF EQUIPMENT UNDER TEST

7.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix A for the actual connections between EUT and support equipment.

7.2 SUPPORT EQUIPMENT

Support Equipment						
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**	**IC ID**
1	NB(L)	Toshiba	PORTEGE R30-A	N/A	PD97260H	N/A
2	DC Power Source	Agilent	E3640A	N/A	N/A	N/A

Remark:

1. *All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*
2. *Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

8. FCC PART 22 & 24 REQUIREMENTS & INDUSTRY CANADA RSS-132 & RSS-133

8.1 ERP & EIRP MEASUREMENT

LIMIT

According to FCC 22.913(a): The Effective Radiated Power (ERP) of mobile transmitters must not exceed 7 Watts.

According to FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

RSS-132, section 5.4

The transmitter output power shall be measured in terms of average power. The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts. Refer to SRSP-503 for base station e.i.r.p. limits.

RSS-133, section 6.4

The equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510. Moreover, base station transmitters operating in the band 1930-1995 MHz shall not have output power exceeding 100 watts.

TEST PROCEDURES

CONDUCTED POWER MEASUREMENT:

1. The transmitter output power was connected to the call box.
2. Set EUT at maximum output power via call box.
3. Set Call box at lowest, middle and highest channels for each band and modulation.

TEST RESULTS

No non-compliance noted.

Band II

WCDMA:

Band	Data Rate or Sub-test	UL/DL Channel No.	Frequency (MHz)	Average power (dBm)	EIRP (dBm)	Output Power (W)
WCDMA Band II	RMC 12.2Kbps	9262/9662	1852.4	21.3	24.2	0.2630
		9400/9800	1880.0	21.4	24.3	0.2692
		9538/9938	1907.6	21.7	**24.6**	0.2884

HSUPA:

Band	Data Rate or Sub-test	UL/DL Channel No.	Frequency (MHz)	Average power(dBm)	EIRP (dBm)	Output Power (W)
HSUPA II	1	9262/9662	1852.4	22.0	24.9	0.3090
		9400/9800	1880.0	22.2	25.1	0.3236
		9538/9938	1907.0	22.2	25.1	0.3236
	2	9262/9662	1852.4	22.1	25.0	0.3162
		9400/9800	1880.0	22.4	25.3	0.3388
		9538/9938	1907.0	22.2	25.1	0.3236
	3	9262/9662	1852.4	22.1	25.0	0.3162
		9400/9800	1880.0	22.2	25.1	0.3236
		9538/9938	1907.0	22.6	**25.5**	0.3548
	4	9262/9662	1852.4	22.4	25.3	0.3388
		9400/9800	1880.0	22.3	25.2	0.3311
		9538/9938	1907.0	22.0	24.9	0.3090
	5	9262/9662	1852.4	21.7	24.6	0.2884
		9400/9800	1880.0	21.7	24.6	0.2884
		9538/9938	1907.0	21.6	24.5	0.2818

HSDPA:

Band	Data Rate or Sub-test	UL/DL Channel No.	Frequency (MHz)	Average power (dBm)	EIRP (dBm)	Output Power (W)
HSDPA II	1	9262/9662	1852.4	22.2	**25.2**	0.3311
		9400/9800	1880.0	21.3	24.2	0.2630
		9538/9938	1907.0	21.0	23.9	0.2455
	2	9262/9662	1852.4	21.1	24.0	0.2512
		9400/9800	1880.0	21.3	24.2	0.2630
		9538/9938	1907.0	20.8	23.7	0.2344
	3	9262/9662	1852.4	21.1	24.0	0.2512
		9400/9800	1880.0	21.0	23.9	0.2455
		9538/9938	1907.0	20.8	23.7	0.2344
	4	9262/9662	1852.4	21.2	24.2	0.2630
		9400/9800	1880.0	21.1	24.1	0.2570
		9538/9938	1907.0	20.8	23.7	0.2344

Band V

WCDMA:

Band	Data Rate or Sub-test	UL/DL Channel No.	Frequency (MHz)	Average power (dBm)	EIRP (dBm)	Output Power (W)
WCDMA Band V	RMC 12.2Kbps	4132/4357	826.4	21.3	21.0	0.1259
		4182/4407	836.4	21.4	21.1	0.1288
		4233/4458	846.6	21.9	**21.6**	0.1445

HSUPA:

Band	Data Rate or Sub-test	UL/DL Channel No.	Frequency (MHz)	Average power(dBm)	EIRP (dBm)	Output Power (W)
HSUPA V	1	4132/4357	826.4	22.1	21.8	0.1514
		4182/4407	836.4	22.2	21.9	0.1549
		4233/4458	846.6	22.1	21.8	0.1514
	2	4132/4357	826.4	22.1	21.8	0.1514
		4182/4407	836.4	22.3	22.0	0.1585
		4233/4458	846.6	22.2	21.9	0.1549
	3	4132/4357	826.4	22.4	22.1	0.1622
		4182/4407	836.4	22.6	**22.3**	0.1698
		4233/4458	846.6	22.1	21.8	0.1514
	4	4132/4357	826.4	22.1	21.8	0.1514
		4182/4407	836.4	22.2	21.9	0.1549
		4233/4458	846.6	22.1	21.8	0.1514
	5	4132/4357	826.4	22.4	22.1	0.1622
		4182/4407	836.4	22.2	21.9	0.1549
		4233/4458	846.6	22.3	22.0	0.1585

HSDPA:

Band	Data Rate or Sub-test	UL/DL Channel No.	Frequency (MHz)	Average power (dBm)	EIRP (dBm)	Output Power (W)
HSDPA V	1	4132/4357	826.4	21.2	20.9	0.1230
		4182/4407	836.4	21.5	21.2	0.1318
		4233/4458	846.6	21.6	21.3	0.1349
	2	4132/4357	826.4	21.3	21.0	0.1259
		4182/4407	836.4	21.5	21.2	0.1318
		4233/4458	846.6	21.7	21.4	0.1380
	3	4132/4357	826.4	21.2	20.9	0.1230
		4182/4407	836.4	21.6	21.3	0.1349
		4233/4458	846.6	21.8	**21.5**	0.1413
	4	4132/4357	826.4	21.5	21.2	0.1318
		4182/4407	836.4	21.4	21.1	0.1288
		4233/4458	846.6	21.6	21.3	0.1349

8.2 SPURIOUS RADIATION MEASUREMENT

Limit

FCC §22.917(a), Band 5

For operations in the 824-849 MHz band, out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

FCC §24.238(a), Band 2

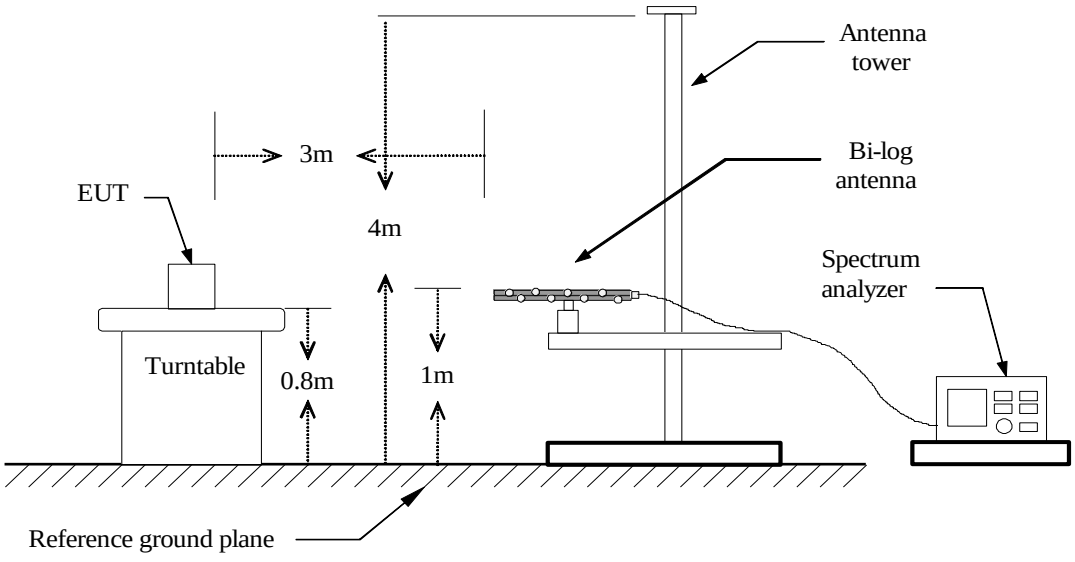
For operations in the 1850-1910 and 1930-1950 MHz band, out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

RSS-132 section 5.5 and RSS-133 section 6.5

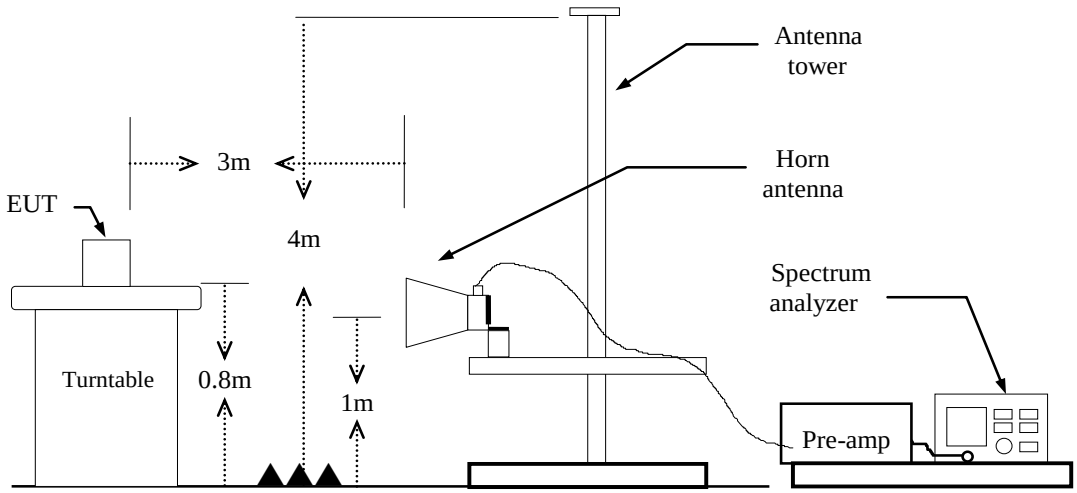
In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p (watts).

Test Configuration

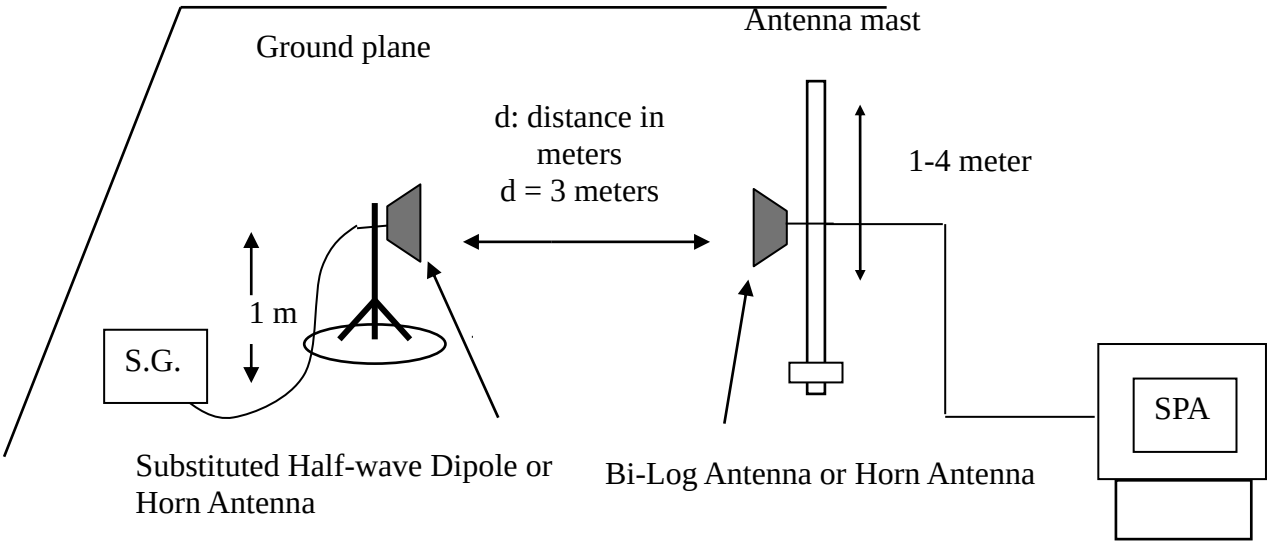
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURE

1. According to KDB 971168 D01.
2. The EUT was placed on a turntable
   (1) Below 1G : 0.8m
   (2) Above 1G : 0.8m
   (3) EUT set 3m from the receiving antenna
   (4) The table was rotated 360 degrees of the highest spurious emission to determine the position.
3. Set the spectrum analyzer , RBW=1MHz, VBW=3MHz.
4. A horn antenna was driven by a signal generator.
5. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

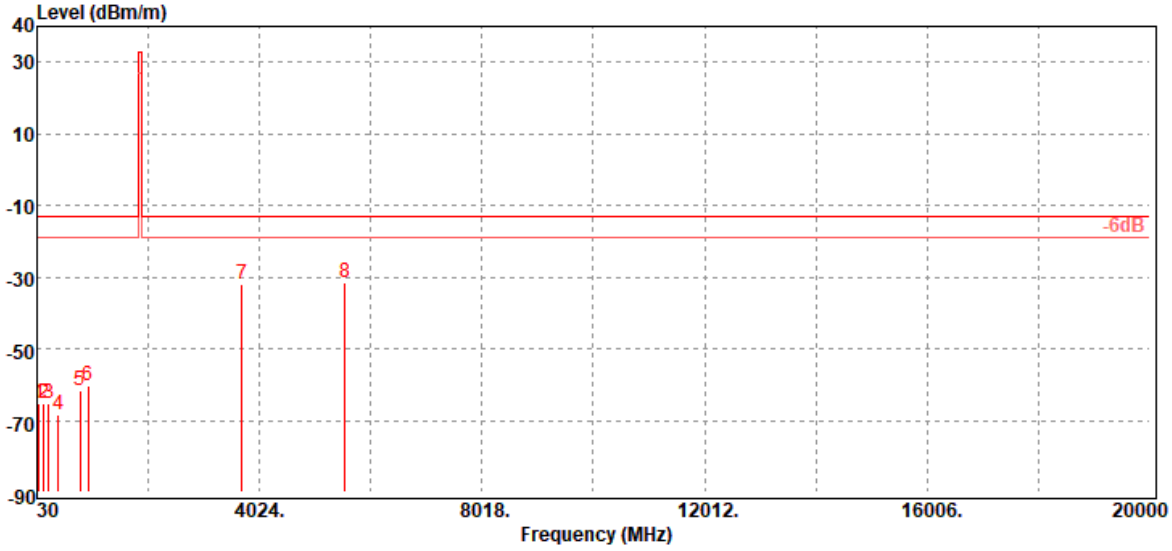
TEST RESULTS

Refer to the attached tabular data sheets.

Report No.: T200407W01-RP6

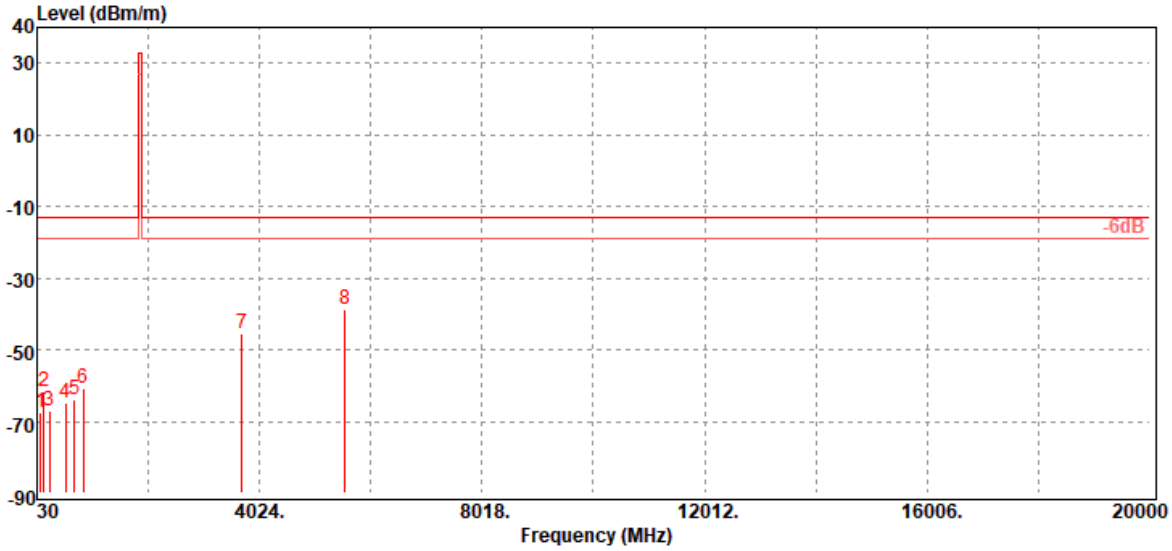
Radiated Spurious Emission Measurement Result

Operation Mode:	WCDMA 12.2k RMC Band II / TX /Low CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Ver.



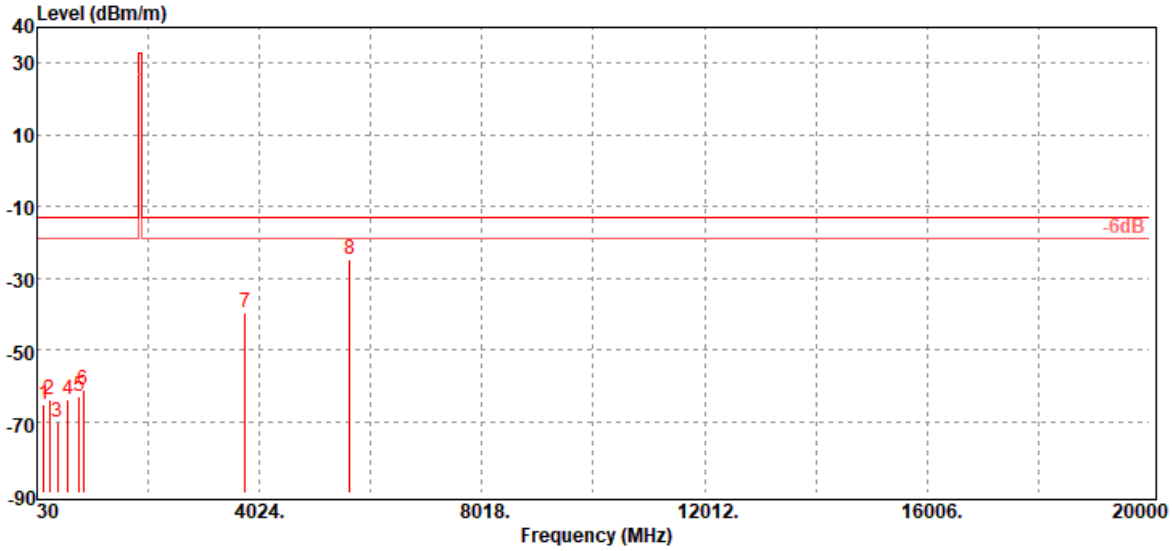
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
61.04	-65.15	-54.31	-10.20	-0.64	-13.00	-52.15	V
151.25	-65.34	-57.28	-7.05	-1.01	-13.00	-52.34	V
245.34	-65.34	-62.16	-1.89	-1.29	-13.00	-52.34	V
419.94	-68.28	-64.68	-1.90	-1.70	-13.00	-55.28	V
804.06	-61.81	-58.05	-1.38	-2.38	-13.00	-48.81	V
941.80	-60.19	-56.33	-1.26	-2.60	-13.00	-47.19	V
3704.80	-31.91	-38.68	12.49	-5.72	-13.00	-18.91	V
5557.20	-31.58	-37.68	13.19	-7.09	-13.00	-18.58	V

Operation Mode:	WCDMA 12.2k RMC Band II / TX /Low CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Hor.



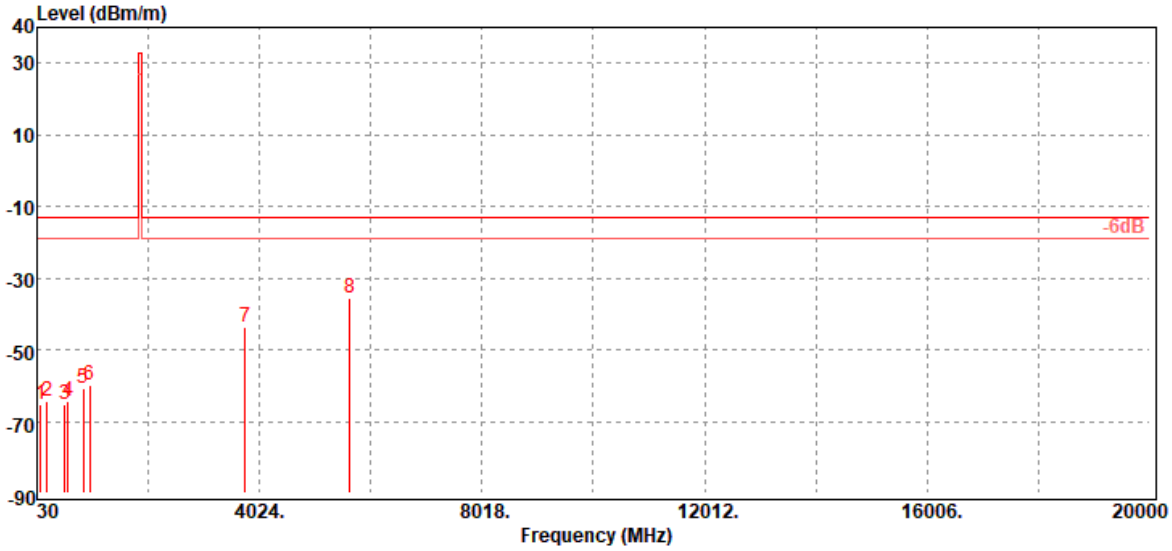
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
93.05	-67.44	-59.45	-7.20	-0.79	-13.00	-54.44	H
158.04	-61.86	-54.43	-6.40	-1.03	-13.00	-48.86	H
255.04	-67.28	-64.37	-1.60	-1.31	-13.00	-54.28	H
546.04	-64.87	-61.73	-1.20	-1.94	-13.00	-51.87	H
707.06	-63.76	-60.06	-1.46	-2.24	-13.00	-50.76	H
866.14	-60.58	-56.82	-1.28	-2.48	-13.00	-47.58	H
3704.80	-45.68	-52.45	12.49	-5.72	-13.00	-32.68	H
5557.20	-38.56	-44.66	13.19	-7.09	-13.00	-25.56	H

Operation Mode:	WCDMA 12.2k RMC Band II / TX /Mid CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Ver.



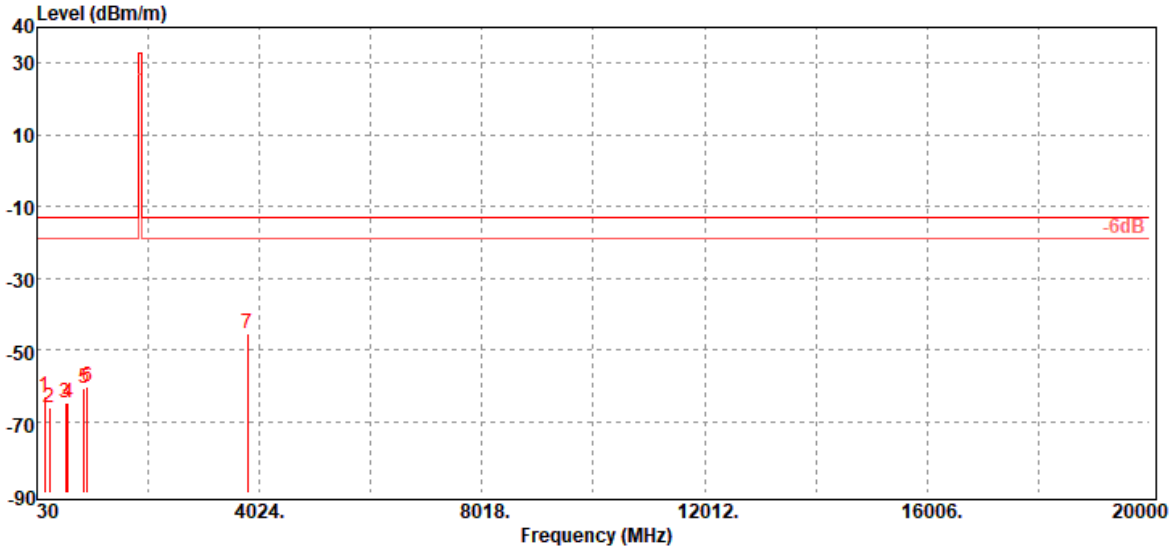
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
153.19	-65.19	-57.45	-6.72	-1.02	-13.00	-52.19	V
250.19	-64.07	-60.98	-1.79	-1.30	-13.00	-51.07	V
400.54	-70.06	-66.69	-1.71	-1.66	-13.00	-57.06	V
589.69	-63.69	-60.63	-1.01	-2.05	-13.00	-50.69	V
794.36	-62.79	-59.22	-1.21	-2.36	-13.00	-49.79	V
857.41	-61.38	-57.61	-1.30	-2.47	-13.00	-48.38	V
3760.00	-39.51	-46.17	12.42	-5.76	-13.00	-26.51	V
5640.00	-24.83	-30.95	13.26	-7.14	-13.00	-11.83	V

Operation Mode:	WCDMA 12.2k RMC Band II / TX /Mid CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Hor.



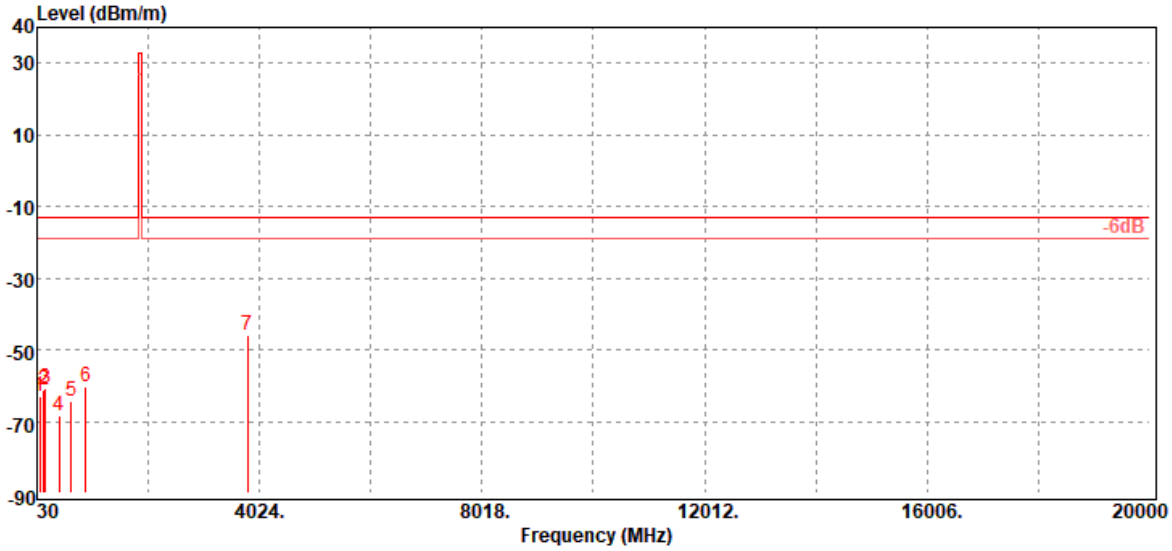
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
88.20	-65.09	-57.16	-7.16	-0.77	-13.00	-52.09	H
211.39	-64.45	-61.16	-2.10	-1.19	-13.00	-51.45	H
524.70	-65.19	-61.97	-1.31	-1.91	-13.00	-52.19	H
585.81	-64.58	-61.37	-1.17	-2.04	-13.00	-51.58	H
866.14	-60.75	-56.99	-1.28	-2.48	-13.00	-47.75	H
977.69	-60.02	-56.02	-1.35	-2.65	-13.00	-47.02	H
3760.00	-43.56	-50.22	12.42	-5.76	-13.00	-30.56	H
5640.00	-35.46	-41.58	13.26	-7.14	-13.00	-22.46	H

Operation Mode:	WCDMA 12.2k RMC Band II / TX /High CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Ver.



Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
173.56	-63.01	-56.94	-4.99	-1.08	-13.00	-50.01	V
259.89	-66.02	-62.89	-1.80	-1.33	-13.00	-53.02	V
539.25	-64.61	-61.38	-1.30	-1.93	-13.00	-51.61	V
585.81	-64.78	-61.57	-1.17	-2.04	-13.00	-51.78	V
878.75	-60.79	-57.05	-1.23	-2.51	-13.00	-47.79	V
930.16	-60.35	-56.46	-1.30	-2.59	-13.00	-47.35	V
3815.20	-45.61	-52.28	12.47	-5.80	-13.00	-32.61	V

Operation Mode:	WCDMA 12.2k RMC Band II / TX / High CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Hor.

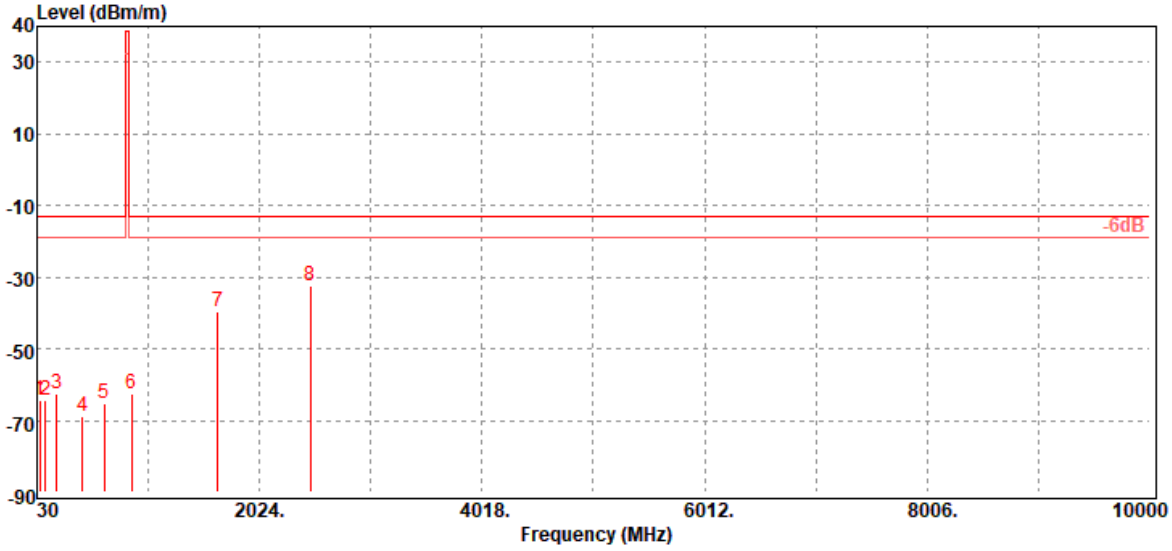


Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
81.41	-63.08	-53.94	-8.40	-0.74	-13.00	-50.08	H
156.10	-61.27	-53.65	-6.59	-1.03	-13.00	-48.27	H
178.41	-60.89	-55.23	-4.56	-1.10	-13.00	-47.89	H
425.76	-68.33	-64.72	-1.90	-1.71	-13.00	-55.33	H
641.10	-64.24	-60.42	-1.68	-2.14	-13.00	-51.24	H
903.00	-60.48	-56.67	-1.26	-2.55	-13.00	-47.48	H
3815.20	-45.92	-52.59	12.47	-5.80	-13.00	-32.92	H

Report No.: T200407W01-RP6

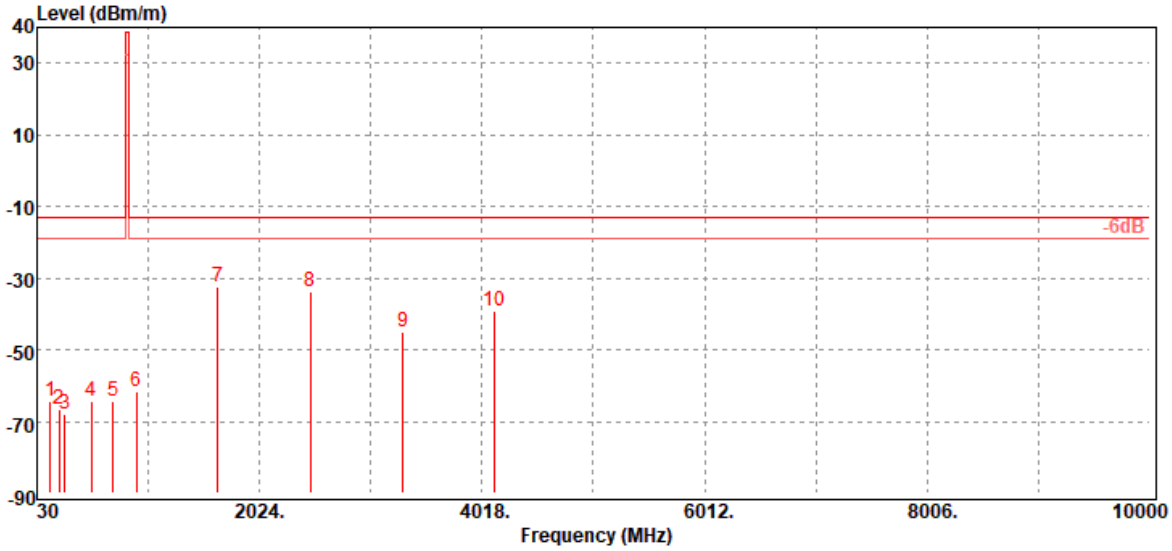
Radiated Spurious Emission Measurement Result

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Low CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Ver.



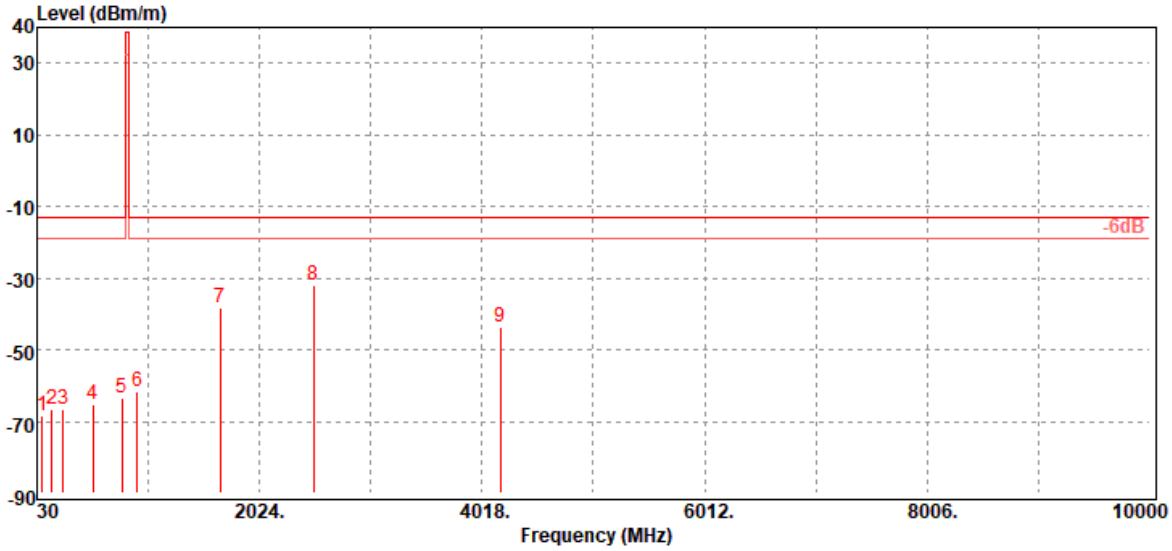
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
57.16	-64.41	-53.33	-10.47	-0.61	-13.00	-51.41	V
105.66	-64.26	-54.05	-9.37	-0.84	-13.00	-51.26	V
206.54	-62.36	-58.60	-2.58	-1.18	-13.00	-49.36	V
434.49	-68.73	-65.01	-1.99	-1.73	-13.00	-55.73	V
634.31	-65.16	-61.37	-1.67	-2.12	-13.00	-52.16	V
878.75	-62.39	-58.65	-1.23	-2.51	-13.00	-49.39	V
1652.80	-39.67	-45.84	9.72	-3.55	-13.00	-26.67	V
2479.20	-32.47	-38.64	10.72	-4.55	-13.00	-19.47	V

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Low CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Hor.



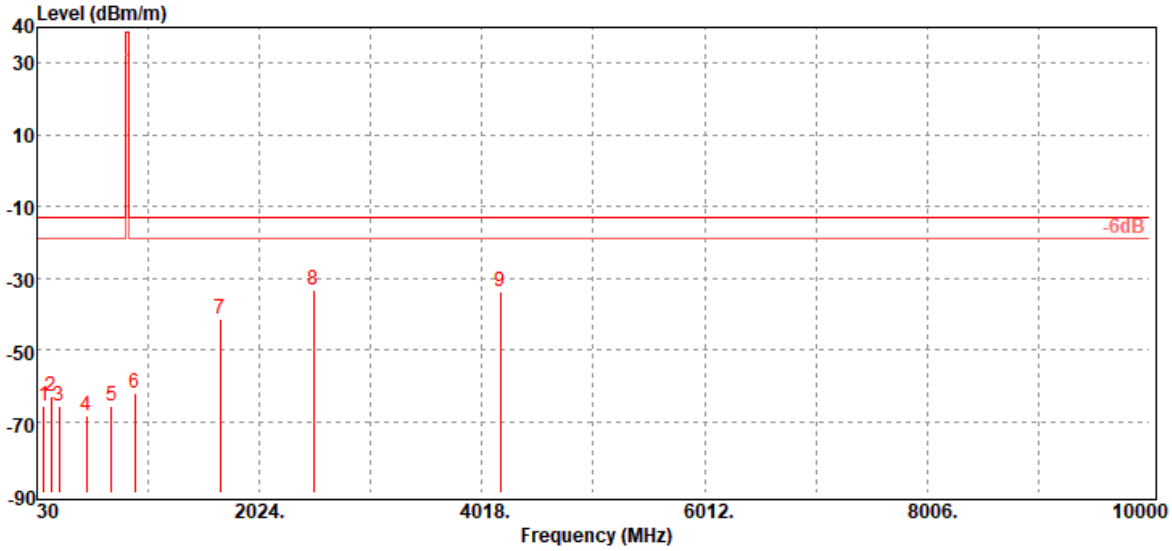
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
152.22	-64.19	-56.32	-6.86	-1.01	-13.00	-51.19	H
226.91	-66.59	-63.37	-1.98	-1.24	-13.00	-53.59	H
275.41	-68.15	-64.18	-2.60	-1.37	-13.00	-55.15	H
519.85	-64.49	-61.18	-1.40	-1.91	-13.00	-51.49	H
713.85	-64.52	-60.87	-1.40	-2.25	-13.00	-51.52	H
919.49	-61.88	-58.01	-1.30	-2.57	-13.00	-48.88	H
1652.80	-32.37	-38.54	9.72	-3.55	-13.00	-19.37	H
2479.20	-33.77	-39.94	10.72	-4.55	-13.00	-20.77	H
3305.60	-44.93	-52.16	12.63	-5.40	-13.00	-31.93	H
4132.00	-39.04	-45.86	12.86	-6.04	-13.00	-26.04	H

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Mid CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Ver.



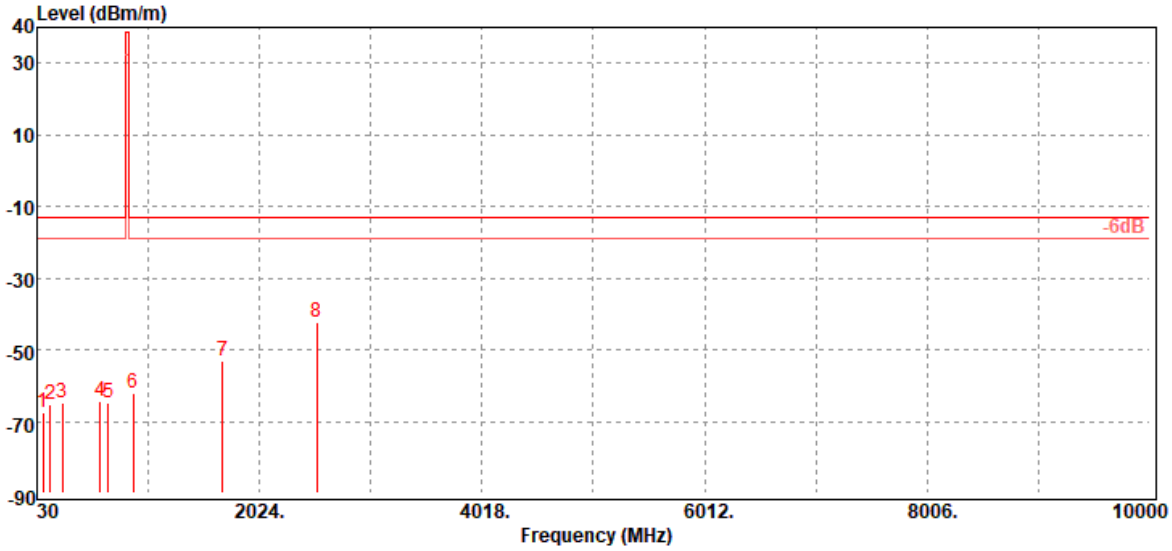
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
80.44	-68.58	-59.39	-8.46	-0.73	-13.00	-55.58	V
160.95	-66.43	-59.28	-6.11	-1.04	-13.00	-53.43	V
260.86	-66.59	-63.36	-1.90	-1.33	-13.00	-53.59	V
532.46	-65.18	-61.96	-1.30	-1.92	-13.00	-52.18	V
788.54	-63.41	-59.76	-1.30	-2.35	-13.00	-50.41	V
929.19	-61.85	-57.96	-1.30	-2.59	-13.00	-48.85	V
1672.80	-38.36	-44.62	9.84	-3.58	-13.00	-25.36	V
2509.20	-32.17	-38.38	10.80	-4.59	-13.00	-19.17	V
4182.00	-43.50	-50.33	12.90	-6.07	-13.00	-30.50	V

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Mid CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Hor.



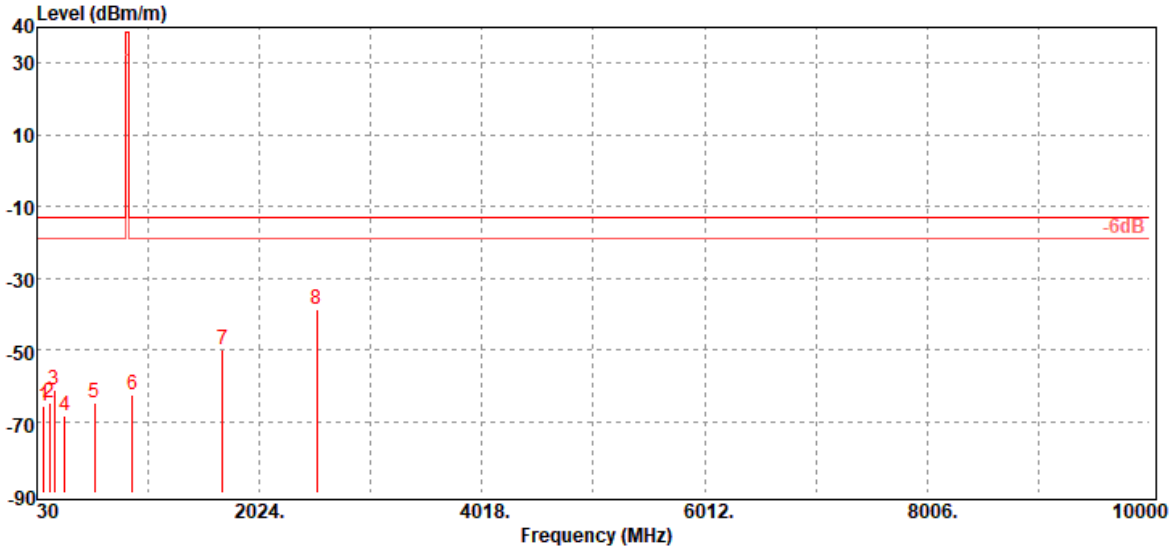
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
88.20	-65.62	-57.69	-7.16	-0.77	-13.00	-52.62	H
154.16	-63.15	-55.35	-6.78	-1.02	-13.00	-50.15	H
225.94	-65.67	-62.50	-1.94	-1.23	-13.00	-52.67	H
476.20	-68.38	-64.17	-2.40	-1.81	-13.00	-55.38	H
694.45	-65.54	-61.92	-1.40	-2.22	-13.00	-52.54	H
904.94	-62.23	-58.38	-1.30	-2.55	-13.00	-49.23	H
1672.80	-41.31	-47.57	9.84	-3.58	-13.00	-28.31	H
2509.20	-33.55	-39.76	10.80	-4.59	-13.00	-20.55	H
4182.00	-33.77	-40.60	12.90	-6.07	-13.00	-20.77	H

Operation Mode:	WCDMA 12.2k RMC Band V / TX / High CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Ver.



Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
85.29	-67.36	-58.80	-7.81	-0.75	-13.00	-54.36	V
149.31	-65.45	-57.28	-7.17	-1.00	-13.00	-52.45	V
256.01	-64.76	-61.80	-1.64	-1.32	-13.00	-51.76	V
595.51	-64.50	-61.63	-0.81	-2.06	-13.00	-51.50	V
665.35	-64.87	-61.20	-1.49	-2.18	-13.00	-51.87	V
895.24	-62.24	-58.41	-1.30	-2.53	-13.00	-49.24	V
1693.20	-53.10	-59.46	9.96	-3.60	-13.00	-40.10	V
2539.80	-42.10	-48.28	10.80	-4.62	-13.00	-29.10	V

Operation Mode:	WCDMA 12.2k RMC Band V / TX / High CH	**Test Date:**	June 6, 2020
Temperature:	24.9℃	**Tested by:**	Jerry Chang
Humidity:	51%RH	**Polarity:**	Hor.



Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
88.20	-65.54	-57.61	-7.16	-0.77	-13.00	-52.54	H
143.49	-64.60	-55.62	-8.00	-0.98	-13.00	-51.60	H
185.20	-61.12	-55.92	-4.08	-1.12	-13.00	-48.12	H
275.41	-68.62	-64.65	-2.60	-1.37	-13.00	-55.62	H
547.01	-64.94	-61.80	-1.20	-1.94	-13.00	-51.94	H
888.45	-62.75	-59.00	-1.23	-2.52	-13.00	-49.75	H
1693.20	-49.76	-56.12	9.96	-3.60	-13.00	-36.76	H
2539.80	-38.53	-44.71	10.80	-4.62	-13.00	-25.53	H

8.3 TEST DATA RE-USE SUMMARY

Introduction Section:

The application re-uses data collected on a similar device. The subject device of this application (Model: N653, FCC ID: P4Q-N653, IC: 2420C-N653) is electrically identical to the reference device (Model: N635, FCC ID: P4Q-N635A, IC: 2420C-N635A) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 484596 D01.

Differences Brief Description:

The WLAN, WWAN, BT and RFID hardware of this device are identical to the implementation in
FCC ID: P4Q-N653.
IC: 2420C-N653
The Product Equality Declaration document includes detailed information about the changes between the devices. The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the summary table below.

Spot Check Verification Result Summary

Equipment Class	Reference FCC ID / IC No.	Folder Test	Report Title/ Section
Part 22H & 24E / RSS-132 & RSS-133	P4Q-N635A / 2420C-N635A	T191105W01-RP6	All Section *(Except for ERP/EIRP Measurement, Spurious Radiation Measurement)*

Summery of the spot check for Unlicensed bands and Licensed bands

In order to confirm hardware similarity of the subject device with the reference device, we used same setting power to radiated emission measurement were performed on the subject device for the Band edge and Harmonic, the test result were similar with FCC ID: P4Q-N635A / IC: 2420C-N635A.

WWAN: WCDMA

Report	Test Item	Frequency (MHz)	P4Q-N635A / 2420C-N635A		P4Q-N653 / 2420C-N653		Gap (dB)
			Measured Frequency (MHz)	EIRP/ERP	Measured Frequency (MHz)	EIRP/ERP	
Band II	RSE	1880	5640	-25.42	5640	-24.83	-0.59
Band IV	RSE	826.4	2479.2	-31.88	1652.8	-32.37	0.49

- End of Test Report -