Shenzhen Huatongwei International Inspection Co., Ltd.

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TEST REPORT

Report Reference No.: TRE18100189 R/C....: 42981

FCC ID: 2AJGM-DM1702

PO FUNG ELECTRONIC (HK) INTERNATIOANL GROUP Applicant's name:

COMPANY

3/F FULOK BLDG 131-133 WING LOK ST SHEUNG WAN Hong Address:

Kong

PO FUNG ELECTRONIC (HK) INTERNATIOANL GROUP Manufacturer.....

COMPANY

3/F FULOK BLDG 131-133 WING LOK ST SHEUNG WAN Hong Address.....:

Kong

Test item description: **DMR Digital Radio**

Trade Mark....: BAOFENG

Model/Type reference: DM-1702

Listed Model(s)....: DM-1702A, DM-1702B

FCC CFR Title 47 Part 2 Standard....::

FCC CFR Title 47 Part 90

Date of receipt of test sample.....: Oct. 23, 2018

Date of testing..... Oct. 23, 2018- Nov. 06, 2018

Date of issue..... Nov. 07, 2018

Result:: **PASS**

Compiled by

(position+printed name+signature) .: File administrators Fanghui Zhu

Supervised by

(position+printed name+signature) .: Project Engineer Jerry Wang Jerry Wong Homstu

Approved by

(position+printed name+signature) .: RF Manager Hans Hu

Testing Laboratory Name.....: Shenzhen Huatongwei International Inspection Co., Ltd.

1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Address:

Tianliao, Gongming, Shenzhen, China

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The test report merely correspond to the test sample.

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1 TEST STANDARDS AND REPORT VERSION

1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 2: Frequency allocations and radio treaty matters; General rules and regulations

FCC Rules Part 90: Private land mobile radio services.

ANSI C63.26-2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

<u>ANSI/TIA-603-E(2016):</u> Land Mobile FM or PM Communications Equipment and Performance Standards <u>FCC Part 15 Subpart B:</u> Unintentional Radiators.

ANSI C63.4-2014: American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

1.2. Report revised information

Revised No.	Date of issued	Description
N/A	2018-11-07	Original

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2 TEST DESCRIPTION

Test Item	Section in CFR 47	Result	Test Engineer
Conducted Carrier Output Power	Part 90.205 Part 2.1046(a)	Pass	Gaosheng Pan
99% Occupied Bandwidth & 26dB bandwidth	Part 90.209 & 210 Part 2.1049	Pass	Gaosheng Pan
Emission Mask	Part 90.209 & 210 Part 2.1049	Pass	Gaosheng Pan
Modulation Limit	Part 2.1047(b)	N/A	N/A
Audio Frequency Response	Part 2.1047(a)	N/A	N/A
Frequency Stability VS Temperature	Part 90.213 Part 2.1055	Pass	Gaosheng Pan
Frequency Stability VS Voltage	Part 90.213 Part 2.1055	Pass	Gaosheng Pan
Transient Frequency Behavior	Part 90.214	Pass	Gaosheng Pan
Transmit Conducted Spurious Emission	Part 90.210 Part 2.1051	Pass	Gaosheng Pan
Transmit Radiated Spurious Emission	Part 90.210 Part 2.1053	Pass	Michael.Jie
AC Power Line Conducted Emission	Part 15.107	Pass	Jeremy Zhang
Radiated Emission	Part 15.109	Pass	Michael.Jie

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3 **SUMMARY**

3.1 Client Information

Applicant:	PO FUNG ELECTRONIC (HK) INTERNATIOANL GROUP COMPANY
Address:	3/F FULOK BLDG 131-133 WING LOK ST SHEUNG WAN Hong Kong
Manufacturer:	PO FUNG ELECTRONIC (HK) INTERNATIOANL GROUP COMPANY
Address:	3/F FULOK BLDG 131-133 WING LOK ST SHEUNG WAN Hong Kong

3.2 Product Description

Name of EUT:	DMR Digital Radio		
Trade mark:	BAOFENG		
Model/Type reference:	DM-1702		
Listed model(s):	DM-1702A,DM-1702B		
Power supply:	DC7.4V		
Battery information:	Model:DM-2 7.4Vd.c., 2200mAh/16.28	3Wh	
Charger information:	Model:GW-1		
Adapter information:	information: Model:DM-1 Input:100-240Va.c., 50/60Hz Output:10Vd.c., 1A		
Hardware version:	-		
Software version:	1702		
RF Specification			
Support Frequency Range:	Support Frequency Range: 136 MHz~174MHz, 400MHz~470MHz		
Permitted frequency range: *1	136 MHz~174MHz 400MHz~406MHz, 406.1	MHz~470MHz	
Rated Output Power:	⊠ High Power: 5W ⊠ Low Power: 1W		
Modulation Type:	Digital :	4FSK	
Supported Digital Protocol: *2	DMR		
Channel Separation:	Digital :	☐ 6.25kHz	⊠ 12.5kHz
Emission Designator: *3	Digital: 7K60FXW, 7K60FXD		
Support data rate:	9.6kbps		
Antenna Type:	External		

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Note:

(1) *1 Listed frequency range 136MHz~150.05MHz, 400MHz~406MHz for Federal use Only.

- (2) *2 The DMR standard specifies two-slot Time Division Multiplexing Technology to split the 12.5 kHz channel into two virtual 6.25kHz communication paths. This equates to an efficiency of one voice channel per 6.25 kHz of bandwidth even though it operates in channels of 12.5 kHz
- (3) *3 According to FCC Part 2.202 requirements, the Necessary Bandwidth is calculated as follows:
 - For FM Data Modulation

Channel Spacing = 12.5 KHz, R = 9600 bps, D = 1944Hz, S = 4, K = 0.72

 $Bn = (R/log_2S) + 2DK \cong 7.6 \text{ KHz}$

Emission designation: 7K60FXW, 7K60FXD

3.3 Test frequency list

According to ANSI C63.26 section 5.1.2.1:

Measurements of transmitters shall be performed and, if required, reported for each frequency band in which the EUT can be operated with the device transmitting at the number of frequencies in each band specified in Table 2.

Frequency range over which EUT operates	Number of frequencies	Location in frequency range of operation
1 MHz or less	1	Middle
1 MHz to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

Frequency Bands (MHz)		Test Frequency (MHz)
	CH∟	136.0125
136MHz ~ 174MHz (VHF Band)	CH _{M2}	155.0125
	СНн	173.9875
400MH - 400MH - (IIII F Barrel)	CH∟	400.0125
400MHz ~ 406MHz (UHF Band)	CH _{M1}	405.9875
	CH _{M2}	406.1125
406.1MHz ~470MHz (UHF Band)	CH _{M3}	438.0125
	СНн	469.9875

Note: UHF/VHF bands are marked in the report

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3.4 Operation mode

Test mode	Transmitting	Receiving	Digital	Power level	
rest mode			12.5kHz	High	Low
TX-DNH	√		\checkmark	\checkmark	
TX-DNL	√		\checkmark		\checkmark
RX-DN		\checkmark	\checkmark		

Note:

 $[\]sqrt{\ }$: is operation mode.

Modulation Type	Description
UM	Un-modulation Un-modulation
AM2	Apply a 1000 Hz tone and adjust the audio frequency generator to produce 20% of the rated system deviation.
AM6	Apply a 1000 Hz modulating signal to the transmitter from the audio frequency generator, and adjust the level to obtain 60% of full rated system deviation, then increase the level from the audio generator by 20 dB
AM5	Modulate the transmitter with a 2500 Hz sine wave at an input level 16 dB greater than that necessary to produce 50% of rated system deviation.
DM	A 511 bit binary pseudo-random bit sequence based on ITU-T Rec. O.153

Pre-scan above all test mode, found below test mode which it was worse case mode, so only show the test data for worse case mode on the test report.

Test item	Modulation Type	Test mode (Worse case mode)
Conducted Output Power	UM	TX-DNH, TX-DNL
99% Occupied Bandwidth & 26dB bandwidth	DM	TX-DNH, TX-DNL
Emission Mask	UM ,DM	TX-DNH, TX-DNL
Modulation Limit	AM6	N/A
Audio Frequency Response	AM2	N/A
Frequency Stability VS Temperature	UM	TX-DNH, TX-DNL
Frequency Stability VS Voltage	UM	TX-DNH, TX-DNL
Transient Frequency Behavior	UM	TX-DNH
Transmit Conducted Spurious Emission	DM	TX-DNH
Transmit Radiated Spurious Emission	DM	TX-DNH
AC Power Line Conducted Emission	-	RX-DN
Radiated Emission	-	RX-DN

3.5 EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- - supplied by the manufacturer
- \circ supplied by the lab

•	Power Cable	Length (m):	/
		Shield :	Unshielded
		Detachable :	Undetachable
0	Multimeter	Manufacturer :	/
		Model No. :	1

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4 TEST ENVIRONMENT

4.1 Address of the test laboratory

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd. Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

4.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No. 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 762235

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 762235.

IC-Registration No.: 5377B-1

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B-1.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

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4.3 Environmental conditions

Atmospheric Contions		
Temperature:	21°C to 25°C	
Relative Humidity:	20 % to 75 %.	
Atmospheric Pressure:	860 mbar to 1060 mbar	
Norminal Test Voltage:	V _N = DC 7.40V	
Extrem Test Voltage @115%V _N :	V _H = DC 8.51V	
Extrem Test Voltage @85%V _N :	V _L = DC 6.29V	

4.4 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods — Part 4: Uncertainty in EMC Measurements" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Frequency stability	25 Hz	(1)
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emission 9KHz-40 GHz	1.60 dB	(1)
Conducted Emission 9KHz-30MHz	3.39 dB	(1)
Radiated Emission 30~1000MHz	4.65 dB	(1)
Radiated Emission 1~18GHz	5.16 dB	(1)
Radiated Emission 18-40GHz	5.54 dB	(1)
Occupied Bandwidth	35 Hz	(1)
FM deviation	25 Hz	(1)
Audio level	0.62 dB	(1)
Low Pass Filter Response	0.76 dB	(1)
Modulation Limiting	0.42 %	(1)
Transient Frequency Behavior	6.8 %	(1)

⁽¹⁾ This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

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4.5 Equipments Used during the Test

•	AC Power Line Conducted Emission						
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)	
•	Shielded Room	Albatross projects	N/A	N/A	2018/09/28	2023/09/27	
•	EMI Test Receiver	R&S	ESCI	101247	2018/10/27	2019/10/26	
•	Artificial Mains	SCHWARZBECK	NNLK 8121	573	2018/10/27	2019/10/26	
•	Pulse Limiter	R&S	ESH3-Z2	100499	2018/10/27	2019/10/26	
•	RF Connection Cable	HUBER+SUHNER	EF400	N/A	2018/11/15	2019/11/14	
•	Test Software	R&S	ES-K1	N/A	N/A	N/A	
0	Single Balanced Telecom Pair ISN	FCC	FCC-TLISN-T2-02	20371	2018/10/28	2019/10/27	
0	Two Balanced Telecom Pairs ISN	FCC	FCC-TLISN-T4-02	20373	2018/10/28	2019/10/27	
0	Four Balanced Telecom Pairs ISN	FCC	FCC-TLISN-T8-02	20375	2018/10/28	2019/10/27	
0	V-Network	R&S	ESH3-Z6	100211	2018/10/27	2019/10/26	
0	V-Network	R&S	ESH3-Z6	100210	2018/10/27	2019/10/26	
0	2-Line V-Network	R&S	ESH3-Z5	100049	2018/10/27	2019/10/26	

•	RF Conducted Test						
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)	
•	Spectrum Analyzer	Agilent	N9020A	MY50510187	2018/09/29	2019/09/28	
•	Signal & Spectrum Analyzer	R&S	FSW26	103440	2018/10/28	2019/10/27	
•	RF Communication Test Set	HP	8920A	3813A10206	2018/10/28	2019/10/27	
•	Digital intercom communication tester	Aeroflex	3920B	1001682041	2018/10/28	2019/10/27	
•	Signal Generator	R&S	SML02	100507	2018/10/27	2019/10/26	
•	Signal Generator	IFR	2032	203002\100	2018/11/11	2019/11/10	
•	RF Control Unit	Tonscend	JS0806-2	N/A	N/A	N/A	
•	Fliter-VHF	Microwave	N26460M1	498702	2018/03/19	2019/03/18	
•	Fliter-UHF	Microwave	N25155M2	498704	2018/03/19	2019/03/18	
0	Power Divider	Microwave	OPD1040-N-4	N/A	2018/11/15	2019/11/14	
0	Attenuator	JFW	50FH-030-100	N/A	2018/11/15	2019/11/14	
0	Attenuator	JFW	50-A-MFN-20	0322	2018/11/15	2019/11/14	
•	Test software	HTW	Radio ATE	N/A	N/A	N/A	

•	Auxiliary Equipr	ment				
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
•	Climate chamber	ESPEC	GPL-2	N/A	2018/11/08	2019/11/07
•	DC Power Supply	Gwinstek	SPS-2415	GER835793	2018/10/28	2019/10/27

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•	Radiated Spurious Emission					
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
•	Semi-Anechoic Chamber	Albatross projects	SAC-3m-01	N/A	2018/09/30	2021/09/29
•	Spectrum Analyzer	R&S	FSP40	100597	2018/10/27	2019/10/26
•	Loop Antenna	R&S	HFH2-Z2	100020	2017/11/20	2020/11/19
•	Ultra-Broadband Antenna	SCHWARZBECK	VULB9163	538	2017/04/05	2020/04/04
•	Horn Antenna	SCHWARZBECK	9120D	1011	2017/04/01	2020/03/31
0	Horn Antenna	SCHWARZBECK	BBHA9170	25841	2017/03/27	2020/03/26
0	Pre-amplifier	BONN	BLWA0160-2M	1811887	2018/11/14	2019/11/13
•	Pre-amplifier	CD	PAP-0102	12004	2018/11/14	2019/11/13
•	Broadband Preamplifier	SCHWARZBECK	BBV 9718	9718-248	2018/04/28	2019/04/27
•	RF Connection Cable	HUBER+SUHNER	RE-7-FH	N/A	2018/11/15	2019/11/14
•	RF Connection Cable	HUBER+SUHNER	RE-7-FL	N/A	2018/11/15	2019/11/14
•	EMI Test Software	Audix	E3	N/A	N/A	N/A
•	Turntable	MATURO	TT2.0	N/A	N/A	N/A
•	Antenna Mast	MATURO	TAM-4.0-P	N/A	N/A	N/A

•	Auxiliary Equipment						
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)	
0	Radio communication tester	R&S	CMW500	137688-Lv	2018/09/29	2019/09/28	
0	Universal Radio Communication	R&S	CMU200	112012	2018/10/28	2019/10/27	
0	High pass filter	Wainwright	WHKX3.0/18G-10SS	38	2018/11/14	2019/11/13	
0	Band rejection filter	Microwave	N/A	N/A	2018/11/14	2019/11/13	

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5 TEST CONDITIONS AND RESULTS

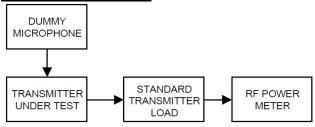
5.1 Conducted Carrier Output Power

LIMIT

FCC Part 90.205, FCC Part 2.1046

Applicants for licenses must request and use no more power than the actual power necessary for satisfactory operation.

TEST CONFIGURATION



TEST PROCEDURE

- (1) Connect the equipment as illustrated
- (2) Correct for all losses in the RF path
- (3) Measure the transmitter output power
- (4) If the power output is adjustable, measurements shall be made for the highest and lowest power levels.

TEST MODE

Please reference to the section 3.4

TEST RESULTS

Please refer to appendix A on the section 8 appendix report

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5.2 99% Occupied Bandwidth & 26dB Bandwidth

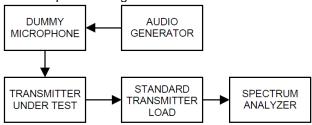
LIMIT

FCC Part 90.209, FCC Part 2.1049

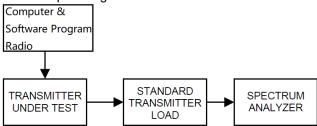
Frequency band (MHz)	Channel spacing (kHz)	Authorized bandwidth (kHz)
Below 25 ²		
25-50	20	20
72-76	20	20
150-174	17.5	^{1 3} 20/11.25/6
216-220 ⁵	6.25	20/11.25/6
220-222	5	4
406-512 ²	¹ 6.25	¹³⁶ 20/11.25/6
806-809/851-854	12.5	20
809-824/854-869	25	⁶ 20
896-901/935-940	12.5	13.6
902-928 ⁴		
929-930	25	20
1427-1432 ⁵	12.5	12.5
³ 2450-2483.5 ²		
Above 2500 ²		

TEST CONFIGURATION

Test setup for Analog:



Test setup for Digital:



TEST PROCEDURE

- (1) Connect the equipment as illustrated
- (2) Spectrum set as follow:

Centre frequency = the nominal EUT channel center frequency,

The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (typically a span of $1.5 \times OBW$ is sufficient)

RBW = 1% to 5% of the anticipated OBW, VBW ≥ 3 × RBW, Sweep = auto,

Detector function = peak, Trace = max hold

- (3) Set 99% Occupied Bandwidth and 26dB Bandwidth
- (4) Measure and record the results in the test report.

Report No.: TRE18100189 Page: 14 of 50 Issued: 2018-11-07 **TEST MODE** Please reference to the section 3.4 **TEST RESULTS ⊠** Passed ■ Not Applicable Please refer to appendix B on the section 8 appendix report

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5.3 Emission Mask

LIMIT

FCC Part 90.210, FCC Part 2.1049

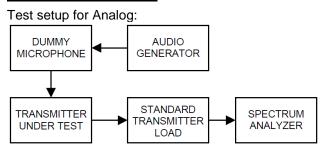
	Mask for equipment	Mask for equipment
	with audio low	without audio low
Frequency band (MHz)	pass filter	pass filter
Below 25 ¹	A or B	A or C
25-50	В	C
72-76	В	C
150-174 ²	B, D, or E	C, D or E
150 paging only	В	С
220-222	F	F
421-512 ^{2 5}	B, D, or E	C, D, or E
450 paging only	В	G
806-809/851-854 ⁶	В	Н
809-824/854-869 ^{3 5}	В	G
896-901/935-940	I	J
902-928	К	К
929-930	В	G
4940-4990 MHz	L or M	L or M
5850-5925 ⁴		
All other bands	В	С

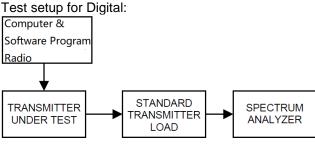
Emission Mask D — 12.5 kHz channel bandwidth equipment

For transmitters designed to operate with a 12.5 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

- (1) On any frequency from the centre of the authorized bandwidth f₀ to 5.625 kHz removed from f₀: 0dB
- (2) On any frequency removed from the centre of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5.625 kHz but no more than 12.5 kHz: At least 7.27(f_d -2.88 kHz) dB.
- (3) On any frequency removed from the centre of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 12.5 kHz: At least 50 + 10 log (P) dB or 70 dB, whichever is the lesser attenuation.

TEST CONFIGURATION





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TEST PROCEDURE

- 1) Connect the equipment as illustrated.
- 2) Spectrum set as follow:

Centre frequency = fundamental frequency, span=120kHz for 12.5kHz channel spacing, RBW=100Hz, VBW=1000Hz, Sweep = auto,

Detector function = peak, Trace = max hold

- 3) Key the transmitter, and set the level of the unmodulated carrier to a full scale reference line. This is the 0dB reference for the measurement.
- 4) Apply Input Modulation Signal to EUT according to Section 3.4
- 5) Measure and record the results in the test report.

TEST MODE

Please reference to the section 3.4

TEST	RESU	LTS
-------------	-------------	-----

⊠ Passed	■ Not Applicable

Please refer to appendix C on the section 8 appendix report

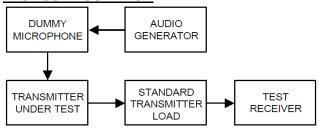
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5.4 Modulation Limit

LIMIT

FCC Part 2.1047(b) 2.5kHz for 12.5 KHz Channel Spacing System

TEST CONFIGURATION



TEST PROCEDURE

- 1) Connect the equipment as illustrated.
- 2) Adjust the transmitter per the manufacturer's procedure for full rated system deviation.
- 3) Set the test receiver to measure peak positive deviation. Set the audio bandwidth for ≤0.25 Hz to ≥15,000 Hz. Turn the de-emphasis function off.
- Apply Input Modulation Signal to EUT according to Section 3.4 and vary the input level from –20 to +20dB.
- Measure both the instantaneous and steady-state deviation at and after the time of increasing the audio input level
- 6) Repeat step 4-5 with input frequency changing to 300Hz, 1004Hz, 1500Hz and 2500Hz in sequence.

TEST MODE

Please reference to the section 3.4

TEST RESULTS

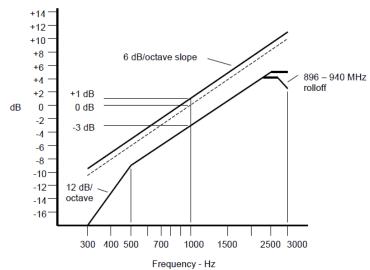
Please refer to appendix D on the section 8 appendix report

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5.5 Audio Frequency Response

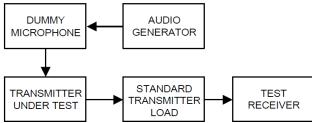
LIMIT

2.1047(a): Voice modulated communication equipment. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz shall be submitted. For equipment required to have an audio low-pass filter, a curve showing the frequency response of the filter or of all circuitry installed between the modulation limiter and the modulated stage shall be submitted.



An additional 6 dB per octave attenuation is allowed from 2500 Hz to 3000 Hz in equipment operating in the 25 MHz to 869 MHz range.

TEST CONFIGURATION



TEST PROCEDURE

- 1) Connect the equipment as illustrated.
- 2) Set the test receiver to measure peak positive deviation. Set the audio bandwidth for 50 Hz to 15,000 Hz. Turn the de-emphasis function off.
- 3) Set the DMM to measure rms voltage.
- 4) Adjust the transmitter per the manufacturer's procedure for full rated system deviation.
- 5) Apply Input Modulation Signal to EUT according to Section 3.4
- 6) Set the test receiver to measure rms deviation and record the deviation reading.
- 7) Record the DMM reading as V_{REF} .
- 8) Set the audio frequency generator to the desired test frequency between 300 Hz and 3000 Hz.
- Vary the audio frequency generator output level until the deviation reading that was recorded in step 6) is obtained.
- 10) Record the DMM reading as V_{FREQ}
- 11) Calculate the audio frequency response at the present frequency as: audio frequency response= $20log_{10}$ (V_{FREQ}/V_{REF}).
- 12) Repeat steps 8) through 11) for all the desired test frequencies

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TEST MODE

Please reference to the section 3.4

TEST RESULTS

 $oxed{oxed}$ Passed $oxed{oxed}$ Not Applicable

Please refer to appendix E on the section 8 appendix report

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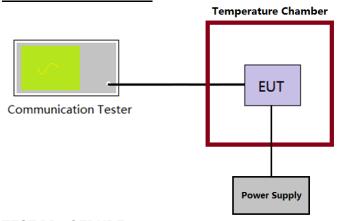
5.6 Frequency stability VS Temperature

LIMIT

FCC Part 90.213, FCC Part 2.1055

		Mobile stations	
Frequency range (MHz)	Fixed and base stations	Over 2 watts output power	2 watts or less output power
Below 25	1 2 3100	100	200
25-50	20	20	50
72-76	5		50
150-174	5 115	⁶ 5	^{4 6} 50
216-220	1.0		1.0
220-222 ¹²	0.1		1.5
421-512	7 11 142.5	⁸ 5	85
806-809	141.0	1.5	1.5
809-824	¹⁴ 1.5	2.5	2.5
851-854	1.0	1.5	1.5
854-869	1.5	2.5	2.5
896-901	140.1	1.5	1.5
902-928	2.5	2.5	2.5
902-928 ¹³	2.5	2.5	2.5
929-930	1.5		
935-940	0.1	1.5	1.5
1427-1435	⁹ 300	300	300
Above 2450 ¹⁰			

TEST CONFIGURATION



TEST PROCEDURE

- 1) The EUT output port was connected to communication tester.
- The EUT was placed inside the temperature chamber.
- Turn EUT off and set the chamber temperature to −30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency as MCF_{MHz}.
- 4) Calculate the ppm frequency error by the following: ppm error=(MCF_{MHZ}/ACF_{MHZ}-1)*10⁶ where MCF_{MHz} is the Measured Carrier Frequency in MHz ACF_{MHz} is the Assigned Carrier Frequency in MHz
- 5) Repeat step 3 measure with 10°C increased per stage until the highest temperature of +50°C reached.

TEST MODE

Please reference to the section 3.4

TEST RESULTS

Please refer to appendix F on the section 8 appendix report

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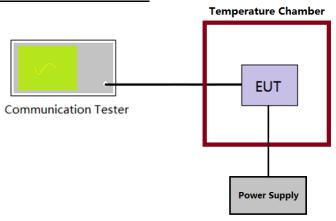
5.7 Frequency stability VS Voltage

LIMIT

FCC Part 90.213, FCC Part 2.1055

		Mobile stations	
Frequency range (MHz)	Fixed and base stations	Over 2 watts output power	2 watts or less output power
Below 25	1 2 3100	100	200
25-50	20	20	50
72-76	5		50
150-174	5 115	6 ₅	⁴⁶ 50
216-220	1.0		1.0
220-222 ¹²	0.1	1.5	1.5
421-512	7 11 142.5	85	85
806-809	141.0	1.5	1.5
809-824	¹⁴ 1.5	2.5	2.5
851-854	1.0		1.5
854-869	1.5	2.5	2.5
896-901	140.1	1.5	1.5
902-928	2.5	2.5	2.5
902-928 ¹³	2.5	2.5	2.5
929-930	1.5		
935-940	0.1	1.5	1.5
1427-1435	⁹ 300	300	300
Above 2450 ¹⁰			

TEST CONFIGURATION



TEST PROCEDURE

- 1) The EUT output port was connected to communication tester.
- The EUT was placed inside the temperature chamber at 25°C
- 3) Record the carrier frequency of the transmitter as MCF_{MHZ}
- 4) Calculate the ppm frequency error by the following: ppm error=(MCF_{MHZ}/ACF_{MHZ}-1)*10⁶ where MCF_{MHz} is the Measured Carrier Frequency in MHz ACF_{MHz} is the Assigned Carrier Frequency in MHz
- Repeat step 3 measure with varied ±15% of the nominal value measured at the input to the EUT

TEST MODE

Please reference to the section 3.4

TEST RESULTS

Please refer to appendix G on the section 8 appendix report

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5.8 Transmitter Frequency Behavior

LIMIT

FCC part 90.214

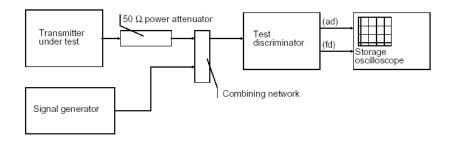
Transmitters designed to operate in the 150-174 MHz and 421-512 MHz frequency bands must maintain transient frequencies within the maximum frequency difference limits during the time intervals indicated:

	Maximum frequency	All equipment	
Time intervals ^{1 2}	difference ³	150 to 174 MHz	421 to 512 MHz
Transient	Frequency Behavior for E	quipment Designed to Opera	te on 25 kHz Channels
t ₁ 4	±25.0 kHz	5.0 ms	10.0 ms
t ₂	±12.5 kHz	20.0 ms	25.0 ms
t ₃ 4	±25.0 kHz	5.0 ms	10.0 ms
Transient	Frequency Behavior for Eq	uipment Designed to Operate	e on 12.5 kHz Channels
14	±12.5 kHz	5.0 ms	10.0 ms
-2	±6.25 kHz	20.0 ms	25.0 ms
t ₃ 4	±12.5 kHz	5.0 ms	10.0 ms
Transient	Frequency Behavior for Eq	uipment Designed to Operate	e on 6.25 kHz Channels
t ₁ 4	±6.25 kHz	5.0 ms	10.0 ms
t ₂	±3.125 kHz	20.0 ms	25.0 ms
t ₃ ⁴	±6.25 kHz	5.0 ms	10.0 ms

Note:

- 1. On is the instant when a 1 kHz test signal is completely suppressed, including any capture time due to phasing.
 - 1) t₁ is the time period immediately following ton.
 - 2) t₂ is the time period immediately following t₁.
 - 3) t₃ is the time period from the instant when the transmitter is turned off until toff.
 - 4) t_{off} is the instant when the 1 kHz test signal starts to rise.
- 2. During the time from the end of t₂ to the beginning of t₃, the frequency difference must not exceed the limits specified in §90.213.
- 3. Difference between the actual transmitter frequency and the assigned transmitter frequency.
- If the transmitter carrier output power rating is 6 watts or less, the frequency difference during this time period may exceed the maximum frequency difference for this time period.

TEST CONFIGURATION



TEST PROCEDURE

- 1) Connect DUT into Test discriminator and Storage Oscilloscope and keep DUT stats ON;
- 2) Input 1kHz signal into DUT;
- 3) Set the modulation domain analyzer to trigger on the rising edge of the waveform in order to capture a single-shot turn-on of the transmitter signals;
- 4) Keep DUT in OFF state and Key the PTT;
- 5) Observe the stored oscilloscope of modulation domain analyzer. The signal trace shall be maintained within the allowable limits during the periods t₁ and t₂, and shall also remain within limits following t₂;
- 6) Adjust the modulation domain analyzer to trigger on the falling edge of the transmitter waveform in order to capture a single-shot turn-off transmitter of the transmitter signal.
- 7) Keep the digital portable radio in ON state and unkey the PTT;
- 8) Observe the stored oscilloscope of modulation domain analyzer, The signal trace shall be maintained within the allowable limits during the period t₃.
- 9) Set the signal generator to the assigned transmitter frequency and modulate it with a 1 kHz tone at ±12.5 kHz deviation and set its output level to -100dBm.
- 10) Turn on the transmitter.

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11) Supply sufficient attenuation via the RF attenuator to provide an input level to the stored oscilloscope

- 12) that is 40 dB below the maximum allowed input power when the transmitter is operating at its rated power level. Note this power level on the stored oscilloscope as P₀.
- 13) Turn off the transmitter.
- 14) Adjust the RF level of the signal generator to provide RF power equal to P₀. This signal generator RF level shall be maintained throughout the rest of the measurement.
- 15) Remove the attenuation, so the input power to the stored oscilloscope is increased by 30 dB when the transmitter is turned on.
- 16) Adjust the vertical amplitude control of the stored oscilloscope to display the 1000 Hz at ±4 divisions vertically centered on the display. Set trigger mode of the Spectrum Analyzer to "Video", and tune the "trigger level" on suitable level. Then set the "tiger offset" to -10ms for turn on and -15ms for turn off.
- 17) Turn on the transmitter and the transient wave will be captured on the screen of Spectrum Analyzer. Observe the stored display. The instant when the 1 kHz test signal is completely suppressed is considered to be ton. The trace should be maintained within the allowed divisions during the period t₁ and t₂.
- 18) Then turn off the transmitter, and another transient wave will be captured on the screen of Spectrum
- 19) Analyzer. The trace should be maintained within the allowed divisions during the period t₃.

T	ES1	ΓМ	О	DE

Please reference to the section 3.4

TEST RESULTS

⊠ Passed	☐ Not Applicable
Please refer to a	appendix H on the section 8 appendix report

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5.9 Transmit Conducted Spurious Emission

LIMIT

FCC Part 90.210, FCC Part 2.1051

Emission Mask D—12.5 kHz channel bandwidth equipment. For transmitters designed to operate with a 12.5 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

(3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 12.5 kHz: At least 50 + 10 log (P) dB or 70 dB, whichever is the lesser attenuation.

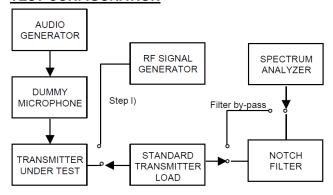
In general, the worse case attenuation requirement shown above was applied.

Calculation: Limit (dBm) =EL-50-10log (P)

EL is the emission level of the Output Power expressed in dBm,

Limit (dBm) = P(dBm)-50-10 log (Pwatts) = -20dBm

TEST CONFIGURATION



TEST PROCEDURE

- Connect the equipment as illustrated, with the notch filter by-passed.
- 2. Apply Input Modulation Signal to EUT according to Section 3.4
- 3. Adjust the spectrum analyzer for the following settings:

Below 1GHz: RBW=100kHz, VBW=300kHz

Above 1GHz: RBW=1MHz, VBW=3MHz

Detector=Peak, Sweep time=Auto, Trace=Max hold

- 4. Scan frequency range up to 10th harmonic.
- 5. Record the frequencies and levels of spurious emissions

TEST MODE

Please reference to the section 3.4

TEST RESULTS

Please refer to appendix I on the section 8 appendix report

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5.10 Transmitter Radiated Spurious Emission

Radiated spurious emissions are emissions from the equipment when transmitting into a nonradiating load on a frequency or frequencies that are outside an occupied band sufficient to ensure transmission of information of required quality for the class of communications desired.

LIMIT

FCC Part 90.210, FCC Part 2.1051

Emission Mask D—12.5 kHz channel bandwidth equipment. For transmitters designed to operate with a 12.5 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

(3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 12.5 kHz: At least 50 + 10 log (P) dB or 70 dB, whichever is the lesser attenuation.

Emission Mask E—6.25 kHz or less channel bandwidth equipment. For transmitters designed to operate with a 6.25 kHz or less bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

(3) On any frequency removed from the center of the authorized bandwidth by more than 4.6 kHz: <u>At least 55 + 10 log (P) or 65 dB</u>, whichever is the lesser attenuation.

In general, the worse case attenuation requirement shown above was applied.

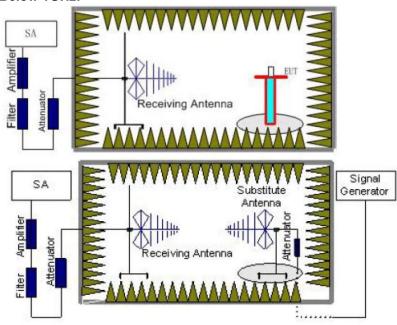
Calculation: Limit (dBm) =EL-50-10log (P)

EL is the emission level of the Output Power expressed in dBm,

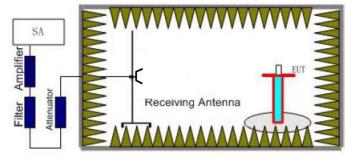
Limit (dBm) = P(dBm)-50-10 log (Pwatts) = -20dBm

TEST CONFIGURATION

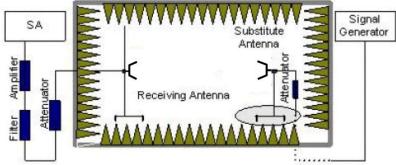
Below 1GHz:



Above 1GHz:



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TEST PROCEDURE

- 1. Standard Transmitter Load with a 50Ω input impedance and an output impedance matched to the test equipment.
- 2. EUT was placed on a 0.8 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.0 m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in six channels were measured with peak detector.
- 3. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
- 4. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz for above 1GHz and RBW=100kHz,VBW=300kHz for 30MHz to 1GHz, And the maximum value of the receiver should be recorded as (Pr).
- 5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
- 6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.

The measurement results are obtained as described below:

Power(EIRP)=PMea- PAg - Pcl - Ga

We used SMF100A micowave signal generator which signal level can up to 33dBm,so we not used power Amplifier for substituation test; The measurement results are amend as described below: Power(EIRP)=PMea- Pcl - Ga

- 7. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
- 8. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

TEST MODE

Please reference to the section 3.4

TEST RESULTS

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ST IVIC	DDE	TX-D	NH for Band	Test Cha	annel:	CH _L		Polarity:		Horizontal
	Level	(dBm/m)			60		- 14		
	U									
	-10									
	20									-20
	-20						1 1 1			
	-30					-1	5			6
	40						3	4		1
	-40	1 3	4 4 4					5	11.	
	-50						1			-
	-60	1					4		4-1-1	
	-00								a nata	1411
	-70						7	To the same	A MICHA	ancor.
	-80			le-1			1 marile	A Company		
			Mary Mary Mary Mary Mary Mary Mary Mary	a sealthy servery prover	ALLENSE LAND	independent of the state of the				
	-90 -4 mm	white was about	The State of the S	1						
_	10030	1 1	1 1 1	1.1		- 1	1 1 1			
	30	50		100	200	ou (MILIT)	500	1000		2000
Trac	ce: (Disc					cy (MHz)				
Mark		quency	Reading		Cable	Preamp		Limit	Over	Remark
1	272.	HZ 07	dBm -29.26	dB 23.69	dB 1.91	dB 29.16	dBm -32.82	dBm -20.00	limit -12.82	
2	409.		-35.52	26.77	2.37	28.98	-35.36	-20.00	-15.36	
3	543.		-41.40	28.25	2.73	29.25	-39.67	-20.00	-19.67	
4	681.		-42.66	30.43	3.14	28.63	-37.72	-20.00	-17.72	
5	1088.		-47.43	34.72	4.41	37.29	-45.59	-20.00	-25.59	9 Peak
6	1905.	28	-42.62	37.46	6.12	37.51	-36.55	-20.00	-16.55	5 Peak
ST MC	DDE	TX-D	NH for	Test Cha	annel:	CH∟		Polarity:	,	Vertical
JVIC			Rand					,		· or trour
J. 1010		VHF	Band					,		
O I IVIC				1 1		1	1 1 1			
	0 Leve	VHF								Torrida.
	o Leve	VHF								
	0 Leve	VHF								-20
	0 Leve	VHF						4		
	0 Leve	VHF				1	2 3	4		
	0 Leve	VHF				1	2 3	4 5		
	0 Leve	VHF				1	2 3	4	-1	
	-10 -20 -30 -40	VHF				1	2 3	4		
	0 Leve -10 -20 -30	VHF				1	2 3	5.		
	-10 -20 -30 -40	VHF				1	2 3	4 5		
	-10 -20 -30 -40 -50 -60	VHF					2 3	4 5		
	-10 -20 -30 -40 -50	VHF		todayee	Market	nankarataka	2 3	4		
	-10 -20 -30 -40 -50 -60	VHF		Mary sandy p.	Market Street		2 3 			
	-10 -20 -30 -40 -50 -60 -70 -80	VHF I (dBm/m		t when the same that the	Market Land	n-alexandr	2 3	5		- <u>20</u>
	-10 -20 -30 -40 -50 -60 -70	VHF		100	200	A Company of the Comp	3 3 500	1000		
	-10 -20 -30 -40 -50 -60 -70 -80	VHF I (dBm/m		100		ncy (MHz)	500	5		- <u>20</u>
	-10 -20 -30 -40 -50 -60 -70 -80 -90	VHF I (dBm/m		g Antenna		Preamp	Level	1000 Limit		2000
Trae Mark	-10 -20 -30 -40 -50 -60 -70 -80 -90 -90 -90 -90 -90 -90 -90 -90 -90 -9	VHF I (dBm/m	Readin	g Antenna dB	Frequer Cable dB	Preamp dB	Level dBm	1000 Limit	Over	2000 Remark
Tran Mark 1	-10 -20 -30 -40 -50 -60 -70 -80 -90 -90 -90 -90 -90 -90 -90 -90 -90 -9	VHF I (dBm/m 50 crete) quency HZ 07	Readin dBm -31.13	g Antenna dB 24.35	Cable dB 1.91	Preamp dB 29.16	Level dBm -34.03	1000 Limit dBm -20.00	Over limit	2000 Remark t 3 Peak
Tran Mark 1 2	-10 -20 -30 -40 -50 -60 -70 -80 -90 -90 -90 -90 -90 -90 -90 -90 -90 -9	VHF I (dBm/m 50 crete) quency HZ 07	Readin dBm -31.13 -36.67	g Antenna dB 24.35 27.14	Cable dB 1.91 2.37	Preamp dB 29.16 28.98	Level dBm -34.03 -36.14	1000 Limit dBm -20.00 -20.00	Over 1imit -14.0: -16.14	2000 Remark t 3 Peak Peak
Trac Mark 1 2 3	-10 -20 -30 -40 -50 -60 -70 -80 -90 -90 -90 -90 -90 -90 -90 -90 -90 -9	VHF I (dBm/m 50 crete) quency HZ 07 10 92	Readin dBm -31.13 -36.67 -40.92	g Antenna dB 24.35 27.14 28.17	Cable dB 1.91 2.37 2.73	Preamp dB 29.16 28.98 29.25	Level dBm -34.03 -36.14 -39.27	1000 Limit dBm -20.00 -20.00 -20.00	Over 1imi: -14.0: -16.14 -19.2	2000 Remark t 3 Peak Peak 7 Peak
Tran Mark 1 2	-10 -20 -30 -40 -50 -60 -70 -80 -90 -90 -90 -90 -90 -90 -90 -90 -90 -9	VHF I (dBm/m 50 crete) cruency HZ 07 10 92 20	Readin dBm -31.13 -36.67	g Antenna dB 24.35 27.14	Cable dB 1.91 2.37	Preamp dB 29.16 28.98	Level dBm -34.03 -36.14	1000 Limit dBm -20.00 -20.00	Over 1imit -14.0: -16.14	2000 Remark t 3 Peak 4 Peak 7 Peak 5 Peak

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EST M	ODE	TX-DNH VHF Ba		Test Cha	annel:	CH _{M2}		Polarity:	H	orizontal
	Level	(dBm/m)				- 10				
	0		111			1				
	-10			+				1-1-1-1-1		
	-20		444							-20
			-111							
	-30									E
	-40	1		<u> </u>		1	2			-
	100		111					3	4	3,000
	-50								111	TT
	-60								+	111
	-70								Justinaline	
	-70							Labour March Lat		
	-80		. Madele	Wasser		المسلمالة و	makething property			
	-90 www.	المين ا	purpopu	markale with	The same	ak jaya jaya		1-1-1-1-1		
	-30 -401-10	Andrew Replacement				1				
-	100 30	50		100	200	-	500	100	00	2000
Tra	ce: (Disci					ncy (MHz)	200 D.D.			
Mark			Reading	Antenna	Cable	Preamp	Level	Limit	Over	Remark
	ME		dBm	dB	dB	dB	dBm		limi	
1	309.8		37.47	24.94	2.01	29.13	-39.65	-20.00		
2	465.9		39.19	27.22	2.53	29.03	-38.47	-20.00	-18.4	
3	775.8 1085.2		54.27 50.98	31.07	3.39	28.85	-48.66 -49.21	-20.00 -20.00		
5	1860.9		43.31	37.05	6.05	37.47	-49.21	-20.00	-17.6	
10000			D-10-10-10-10-10-10-10-10-10-10-10-10-10-						11-31-31-31	11000000
EST M	ODE	TX-DNH VHF Ba		Test Cha	ınneı:	CH _{M2}		Polarity:	V	ertical
	Lovel	(dBm/m)								
	OFFERE	(GOIIIIII)	1 1 1	1		1	1 1 1	1 1 1 1		
	-10							4-1-1-1		
	20								-20	0
	-20		1 1 1	1						_
			TA THE TOTAL	1	1			A Francisco		
	-30								e	
	11.900					4	2		6	
	-40					1	2	4 5	6	
	11.900					1	2	4 5	6	
	-40					1	2 3	4 5	6	
	-40 -50 -60					1	3.	4 5	المسالم الم	
	-40 -50 -60 -70					1	2 3 	4 5 	الماليماليال	
	-40 -50 -60 -70				man and	harre, and had want be	2 3 		4-4-4-4	de .
	-40 -50 -60	hada a a a a a a a a a a a a a a a a a a	*******	Ni prosper de med	more of the later	horre, see land a street	2 3.		المسالم الم	
	-40 -50 -60 -70 -80	- CARRENT MAN	Wagana Baba	May week any desired	Market Value Andrews	harres and a strange drive	3	4 5		de .
	-40 -50 -60 -70	50	Mary probability	Markey Market	200	harres and ballion the	2 3 500	1000		000
Tr	-40 -50 -60 -70 -80 -90 -100 30 ace: (Disc	50			Frequen				20	
	-40 -50 -60 -70 -80 -90 -100 30 ace: (Disc	50 crete)	Reading	Antenna	Frequence Cable	Preamp	Level	Limit	20 Over	de .
Tr. Mark	-40 -50 -60 -70 -80 -90 -100 30 ace: (Disc Fre	50 crete) quency	Reading	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	20 Over limit	000 Remark
Tra Mark 1	-40 -50 -60 -70 -80 -90 -100 30 ace: (Disc Fre M 309,	50 crete) quency HZ	Reading dBm 40.21	Antenna dB 24.39	Cable dB 2.01	Preamp dB 29.13	Level dBm -42.94	Limit dBm -20.00	Over limit -22.94	000 Remark
Tr. Mark	-40 -50 -60 -70 -80 -90 -100 30 ace: (Disc Fre M 309. 465.	50 crete) quency HZ 87 -4	Reading	Antenna dB	Cable dB	Preamp dB 29.13 29.03	Level dBm	Limit dBm	20 Over limit	000 Remark
Tra Mark 1 2	-40 -50 -60 -70 -80 -90 -100 30 ace: (Disc Fre M 309. 465. 621.	50 crete) quency Hz 87 -4 95 -4	Reading dBm 40.21 40.78	Antenna dB 24.39 27.68	Cable dB 2.01 2.53	Preamp dB 29.13 29.03 28.96	Level dBm -42.94 -39.60	Limit dBm -20.00	20 Over limit -22.94 -19.60	000 Remark Peak Peak
Transfer Mark	-40 -50 -60 -70 -80 -90 -100 30 ace: (Disc Fre M 309. 465. 621. 775. 1084.	50 crete) quency HZ 87 -4 95 -4 68 -5 86 -5	Reading dBm 40.21 40.78 55.00	Antenna dB 24.39 27.68 29.99	Cable dB 2.01 2.53 2.99	Preamp dB 29.13 29.03 28.96 28.85 37.29	Level dBm -42.94 -39.60 -50.98	Limit dBm -20.00 -20.00 -20.00	20 Over limit -22.94 -19.60 -30.98	DOOO Remark Peak Peak Peak

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ST MC	DDE		NH for Band	Test Cha	annel:	CH _H		Polarity:	ŀ	Horizontal
	Level	(dBm/m)			112			•	
	U									
2	10									
	20								_	20
	-20									
4	-30									
	40	1		_1			1 12 1			
	40						1	3		
2	-50									
	60						.ii.	4	5	
	53000				T				da had	
-	-70						1	سارين ا	berlington majority	(mode)
	-80						What would	and market at the		
-	-00		- Mari	and photometer the second	Alma July	the state of the s	are south.			
2	90 Marith	pulsan when	Lauthyra		- Jenstein		+			2.4
1	100				-	-				
-1	10030	50		100	200	111.03	500	1000		2000
Trac	ce: (Disc	rete)			Frequen	cy (MHz)				
Mark		quency	Reading	Antenna	Cable	Preamp	Level	Limit	Over	Remark
		HZ	dBm	dB	dB	dB	dBm	dBm	limit	
1	348.		-50.52	25.98	2.14	29.03	-51.43	-20.00	-31.43	Peak
2	523.		-43.69	27.78	2.68	29.16	-42.39	-20.00	-22.39	Peak
3	695.		-51.32	30.50	3.16	28.57	-46.23	-20.00	-26.23	Peak
1000	1043.	19	-62.17	33.80	4.31	37.32 37.12	-61.38 -59.50	-20.00 -20.00	-41.38 -39.50	Peak Peak
5	1201	P.F.	-65 10							
5	1391.		-65.10 -64.35	37.73 37.55						
6	1914.	54	-64.35	37.55	6.14	37.52	-58.18	-20.00	-38.18	Peak
6	1914.	TX-D	-64.35 ONH for		6.14				-38.18	
6	1914. DDE	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak
6	1914. DDE	TX-D	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak
ST MC	DDE OLeve	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak
ST MC	1914. DDE	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
ST MC	1914. DDE 0 Leve	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak
ST MC	1914. DDE 0 Leve -10	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
ST MC	1914. DDE 0 Leve	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
ST MC	1914. DDE 0 Leve -10	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
6 ST MC	1914. DDE OLeve -10 -20 -30 -40	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
6 ST MC	1914. DDE 0 Leve -10	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
6 ST MC	1914. DDE OLeve -10 -20 -30 -40 -50	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
5 ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
ST MC	1914. DDE OLeve -10 -20 -30 -40 -50	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
ST MC	1914. DDE OLeve -10 -20 -30 -50 -60 -70	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80	TX-D VHF	-64.35 ONH for Band	37.55	6.14	37.52		-20.00	-38.18	Peak Vertical
5 ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80	TX-E VHF (dBm/m	-64.35 DNH for Band	Test Cha	annel:	37.52	-58.18	Polarity:	-38.18	/ertical
5 ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80	TX-D VHF	-64.35 DNH for Band	37.55	annel:	37.52 CH _{M2}		-20.00	-38.18	Peak Vertical
ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc	TX-E VHF (dBm/m	-64.35 DNH for Band	Test Cha	200 Frequen	CH _{M2}	500	-20.00 Polarity:	-38.18	Peak Vertical
ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc	TX-C VHF (dBm/m	Reading	Test Cha	200 Frequen	CH _{M2} CH _{M2} Cy (MHz) Preamp	-58.18 500 Level	Polarity:	-38.18	/ertical
ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc	TX-C VHF (dBm/m 50 crete) quency HZ	Reading	Test Cha	200 Frequent Cable	CH _{M2} CH _{M2} icy (MHz) Preamp	500 Level	Polarity:	Over limit	Peak Vertical 200 Remark
ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc Free M 523.	TX-C VHF (dBm/m 50 crete) quency HZ 28	Reading dBm -41.73	Test Cha	200 Frequen Cable dB 2.68	OCY (MHz) Preamp dB 29.16	500 Level dBm -40.97	Polarity: 1000 Limit dEm -20.00	Over limit -20.97	Peak Vertical 200 Remark Peak
ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc Fre M 523. 695.	TX-C VHF (dBm/m fquency HZ 28 73	Reading dBm -41.73 -53.92	Test Charles and the state of t	200 Frequen Cable dB 2.68 3.16	OCY (MHz) Preamp dB 29.16 28.57	500 Level dBm -40.97 -49.18	-20.00 Polarity: 1000 Limit dEm -20.00 -20.00	Over limit -20.97 -29.18	Peak Vertical 200 Remark Peak Peak
ST MC	1914. DE OLeve -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc Fre M 523. 695. 871.	TX-C VHF (dBm/m fquency HZ 28 73 32	Reading dBm -41.73 -53.92 -58.52	100 Antenna dB 27.24 30.15 31.53	200 Frequen Cable dB 2.68 3.16 3.66	37.52 CH _{M2} CH _{M2} Icy (MHz) Preamp dB 29.16 28.57 28.41	500 Level dBm -40.97 -49.18 -51.74	-20.00 Polarity: 1000 Limit dBm -20.00 -20.00 -20.00	Over limit -20.97 -29.18 -31.74	Peak Vertical 200 Remark Peak Peak Peak
ST MC	1914. DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc Fre M 523. 695.	TX-E VHF (dBm/m fuency HZ 28 73 32 91	Reading dBm -41.73 -53.92	Test Charles and the state of t	200 Frequen Cable dB 2.68 3.16	OCY (MHz) Preamp dB 29.16 28.57	500 Level dBm -40.97 -49.18	-20.00 Polarity: 1000 Limit dEm -20.00 -20.00	Over limit -20.97 -29.18	Peak Vertical 200 Remark Peak Peak

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-01 1010		TX-DNH for UHF Band	Test Cha	annel:	CH _L		Polarity:	Ho	rizontal
	0 Level (di	Bm/m)		111111					
	0	1 1 1 1 1 1				1 1 1 1			
	-10								-,
	20							-21	0
	-20						- 5		
	-30								
	40					2	3 4	6	
	-40								
	-50				·			Tirlia	5.1
	-60	.]]]			111.				de
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	-70					L. Mark	the sales of	-	
	-80		1		- Market	different services			
	-00	Market Mary and to have	Mary Mary Market	· 田田山山東京 日本出の大学					
	-90 march 100-	A JAMES AND STREET			ii-i-	tititi.			
	10030			- 8	1 1 1	1111			
7	30	50 100	200		500	1000	2000	5	000
Trac	ce: (Discret	te)		Frequer	ncy (MHz)				
Mark	Freque			Cable	Preamp			Over	Remark
4	MHZ		dB	dB	dB	dBm	dBm	limit	
1	157.75 800.80		25.42 31.05	1.43	29.21	-82.99	-20.00	-62.99	Peak Peak
2	1599.92		35.99	5.57	37.19	-37.48 -40.76	-20.00 -20.00	-17.48 -20.76	Peak
4	2001.04		38.33	6.27	37.60	-36.99		-16.99	Peak
5	2400.16		39.32	6.77	37.59	-28.77	-20.00	-8.77	Peak
6	2801.18	-52.54	40.68	7.37	37.58	-42.07	-20.00	-22.07	Peak
ST MC)DE	TX-DNH for	Test Cha	annel	CH _I		Polarity:	1/0	rtical
JIVI I U.							i Olality.	1 4 5	rucai
JIVI C		VHF Band	10000110	arii 101.	0		i dianty.	0	rtical
.OT IVIC	Level (d	VHF Band	1 3 3 4 3 1 1	arii 101.	O[i olarity.	Ve	rucai
-01 IVIC		VHF Band	1 001 0111			1111	i olanty.		
	Level (d	VHF Band				1-1-1	Totality.	Ve	
	0 Level (di	VHF Band					Totality.	-20	
	0 Level (d	VHF Band					Totality.		
	0 Level (di	VHF Band				-2	3 - 4		
	0 Level (di -10 -20 -30	VHF Band				-2	3 - 4		
	0 Level (di -10 -20 -30 -40	VHF Band				2	1 Granty.		
	0 Level (di -10 -20 -30	VHF Band				-2	3 4		
	-10 -20 -30 -40	VHF Band				2	3 4		
	-10 -20 -30 -40 -50	VHF Band				2	3 4		
	-10 -20 -30 -40	VHF Band				2	3 4		
	-10 -20 -30 -40 -50 -60	VHF Band				2	3 4		
	-10 -20 -30 -40 -50 -70 -80	VHF Band	quantitation of the control of the	maahamidaana	And Andrews Art of the Andrews A	2	3 4 1		
	-10 -20 -30 -40 -50 -60	VHF Band	amagalan Mayaran Jacka	manhamit de la companya de la compan	and the state of t	2	3 4		
	-10 -20 -30 -40 -50 -60 -70 -80	VHF Band Bm/m)	anne galant May arrest for the	mahambani			3 4	-20	
	-10 -20 -30 -40 -50 -70 -80	VHF Band	200	manham di marin	500	1000	2000	-20	
4	-10 -20 -30 -40 -50 -60 -70 -80	VHF Band Bm/m) 50 100	anne galant May arrest for the	Frequen			2000	-20	000
4	-10 -20 -30 -40 -50 -60 -70 -80 -90 -90 -90 -90 -90 -90 -90 -90 -90 -9	VHF Band Bm/m) 50 100 te) ency Reading	200 Antenna	Frequen	500 cy (MHz) Preamp	1000 Level	2000 Limit	5 6 50 Over	
Trac Mark	-10 -20 -30 -40 -50 -60 -70 -80 -90 -90 -90 -90 -90 -90 -90 	VHF Band Bm/m) 50 100 te) ency Reading dBm	200 Antenna	Frequen Cable	500 cy (MHz) Preamp dB	1000 Level	2000 Limit	50 Over limit	00 Remark
Trac Mark	-10 -20 -30 -40 -50 -60 -70 -80 -90 -90 -90 -90 -90 -90 -90 	VHF Band Bm/m) 50 100 ie) ency Reading dBm -73.28	200 Antenna dB 19.39	Frequen Cable dB	500 cy (MHz) Preamp dB 28.97	1000 Level clBm -81.80	2000 Limit dBm -20.00	50 Over limit -61.80	000 Remark
Trac Mark 1 2	-10 -20 -30 -40 -50 -60 -70 -80 -90 -90 -90 -90 -90 -90 -90 -90 -90 -9	VHF Band Bm/m) 50 100 ie) ency Reading dBm -73.28 -38.73	200 Antenna dB 19.39 31.52	Frequen Cable dB 1.06 3.50	500 cy (MHz) Preamp dB 28.97 29.00	1000 Level dBm -81.80 -32.71	2000 Limit dBm -20.00 -20.00	50 Over limit -61.80 -12.71	000 Remark Peak Peak
Trac Mark 1 2 3	-10 -20 -30 -40 -50 -60 -70 -80 -90	VHF Band Bm/m) 50 100 te) ency Reading dBm -73.28 -38.73 -42.70	200 Antenna dB 19.39 31.52 39.12	Frequen Cable dB 1.06 3.50 6.27	500 cy (MHz) Preamp dB 28.97 29.00 37.60	1000 Level dBm -81.80 -32.71 -34.91	2000 Limit dBm -20.00 -20.00 -20.00	50 Over limit -61.80 -12.71 -14.91	000 Remark Peak Peak Peak
Trac Mark 1 2	-10 -20 -30 -40 -50 -60 -70 -80 -90 -90 -90 -90 -90 -90 -90 -90 -90 -9	VHF Band Bm/m) 50 100 te) ency Reading dBm -73.28 -38.73 -42.70 -40.85	200 Antenna dB 19.39 31.52	Frequen Cable dB 1.06 3.50	500 cy (MHz) Preamp dB 28.97 29.00	1000 Level dBm -81.80 -32.71	2000 Limit dBm -20.00 -20.00	50 Over limit -61.80 -12.71	000 Remark Peak Peak

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	ODE	VHF E	NH for Band	Test Cha	annel:	CH _{M1}		Polarity:	Ho	orizontal
	Level	(dBm/m)		7-7-						an I
	U		181 181					1		
	-10		-+			111	1-1-1-1			
	-20							- 1	-20	
	-20							6	1 1	
	-30							5		-
	-40					111	2 3			
								4	Îl alasa	
	-50									
	-60		-4-4-4-4						سلسله ال	
							ملين ا	man My	A John Williams	
	-70						what			
	-80		المالية	1	ليعلىماند	Managara Japane				-
	00		THE THINK	Sandindraga way shally	and and a second					
	-90 man	HAT BY MAN								
	-100 ₃₀	50	100	200	- 61	500	1000	2000	50	
			100	200	Frequen	icy (MHz)	1000	2000	50	00
	ace: (Disci		Dandin	1	Cable		1 1	14-24	Over	Dament
Mark	M	ruency	Reading dBm	Antenna dB	dB	Preamp dB	Level dBm	Limit	Over limit	Remark
1	186.1	700		24.84	1.56	29.08	-83.52	-20.00	-63.52	Peak
2	812.1			31.35	3.52		-40.24	-20.00	-20.24	Peak
3	1216.9	5		36.92	4.69	37.21	-39.66	-20.00	-19.66	Peak
4	1623.2			36.05	5.62	37.22	-48.20	-20.00	-28.20	Peak
5	2030.2			38.85	6.30	37.60	-35.52	-20.00	-15.52	Peak
6	2435.1	.8	-38.63	39.29	6.79	37.59	-30.14	-20.00	-10.14	Peak
EST M	ODE	TX-DI	NH for	Test Cha	annel:	CH _{M1}		Polarity:	Ve	ertical
		VHF E	Band							
	Level	(dBm/m)								
	0 Level	(dBm/m)		1			1111			7
	0 Level	(dBm/m)								
	-10	(dBm/m)							-20	
	U	(dBm/m)						6	-20	
	-10	(dBm/m)					2	6	-20	
	-10 -20 -30	(dBm/m)					2	6 4	-20	
	-10	(dBm/m)					2	5 4	-20	
	-10 -20 -30	(dBm/m)					2	5 4	-20	
	-10 -20 -30 -40	(dBm/m)					2	6 4 5	-20	
	-10 -20 -30 -40 -50 -60	(dBm/m)					2	6 4 5	-20	
	-10 -20 -30 -40	(dBm/m)					2 -3	5 4 5	-20	
	-10 -20 -30 -40 -50 -60						3	5	-20	
	-10 -20 -30 -40 -50 -60 -70			and the second second	promounded	- Innerent to	2 3	5	-20	
	-10 -20 -30 -40 -50 -60			Market Control of the	Managara		2	5	-20	
	-10 -20 -30 -40 -50 -60 -70 -80	<u> </u>		manufacture of the same of the	Management		2	ara lumbra.		
	-10 -20 -30 -40 -50 -60 -70		100	200	phoneuman	500	1000	2000		000
	-10 -20 -30 -40 -50 -60 -70 -80	50		200	Frequer	500 ncy (MHz)	1000	ara lumbra.		000
	-10 -20 -30 -40 -50 -60 -70 -80 -70 -90 -100 30 ace: (Disc	50 rete)	100 Reading	Antenna	Cable	ncy (MHz) Preamp	Level	2000 Limit	50 Over	
Tra Mark	-10 -20 -30 -40 -50 -60 -70 -80 -70 -90 -100 30 ace: (Disc	50 rete) quency	100 Reading	Antenna dB	Cable dB	ncy (MHz) Preamp dB	Level dBm	2000 Limit	50 Over limit	000 Remark
Tra Mark 1	-10 -20 -30 -40 -50 -60 -70 -80 -70 -100 30 ace: (Disc Free	50 rete) ruency	100 Reading dBm -81.82	Antenna dB 26.45	Cable dB 1.58	Preamp dB 29.07	Level dBm -82.86	2000 Limit dBm -20.00	Over limit -62.86	000 Remark Peak
Tra Mark 1 2	-10 -20 -30 -40 -50 -60 -70 -80 -70 -100 30 ace: (Disc Free M 189.4 812.1	50 rete) quency iz 10	100 Reading dBm -81.82 -41.49	Antenna dB 26.45 31.62	Cable dB 1.58 3.52	Preamp dB 29.07 29.01	Level dBm -82.86 -35.36	2000 Limit dBm -20.00 -20.00	50 Over limit -62.86 -15.36	000 Remark Peak Peak
Tra Mark 1 2 3	-10 -20 -30 -40 -50 -60 -70 -80 -70 -100 30 ace: (Disc Free 189. 812.: 1216.	50 rete) quency iz to	100 Reading dBm -81.82 -41.49 -55.09	Antenna dB 26.45 31.62 36.77	Cable dB 1.58 3.52 4.69	Preamp dB 29.07 29.01 37.21	Level dBm -82.86 -35.36 -50.84	2000 Limit dBm -20.00 -20.00 -20.00	50 Over limit -62.86 -15.36 -30.84	Remark Peak Peak Peak
Tra Mark 1 2	-10 -20 -30 -40 -50 -60 -70 -80 -70 -100 30 ace: (Disc Free 189,4 812,1 1216,5 1623,2	50 rete) quency iz to 15 55	100 Reading dBm -81.82 -41.49	Antenna dB 26.45 31.62	Cable dB 1.58 3.52	Preamp dB 29.07 29.01	Level dBm -82.86 -35.36	2000 Limit dBm -20.00 -20.00	50 Over limit -62.86 -15.36	000 Remark Peak Peak

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ST MC	DDE		NH for Band	Test Cha	annel:	CH _{M2}		Polarity:	H	orizontal
	Leve	(dBm/m)							
	0	1 1 -	181 181	15		1 1 1	1 1 1 1 1	1	10 10	
	-10					111-				
	Opening to								-2	n
	-20	1 1						5		_
	-30	1				1	1-6-1-1	4 . 1		
	-30			1			1	1		
	-40					1	3	3	- 5	
	-50	11								-1
	-30									
	-60								لياليار إر	4A
	70					1	المرا	many and	الما ممكن	3.
	-70	1					provide the same			
	-80					Mark Balance				
	Desert		Sanday Minne	chian about the state	and the state of t					
	-90 Hay	of the state of	Mary			111				
	100						1111		1 1	
	10030	50	100	200		500	1000	2000	5	000
Trac	ce: (Disc	crete)			Frequen	cy (MHz)				
Mark		quency	Reading	Antenna	Cable	Preamp	Level	Limit	Over	Remark
	14	HZ	dBm	dB	dB	dB	dBm	dBm	limit	
1	50.	13	-66.36	17.37	0.84	29.23	-77.38	-20.00	-57.38	Peak
2	812.			31.35	3.52	29.01	-33.48	-20.00	-13.48	Peak
3	1216.			36.92	4.69	37.21	-45.00	-20.00	-25.00	Peak
4	2030.			38.85	6.30	37.60	-32.02	-20.00	-12.02	Peak
5	2435.		-35.35	39.29	6.79	37.59	-26.86	-20.00	-6.86	Peak
6	2842.	05	-52.17	40.75	7.39	37.58	-41.61	-20.00	-21.61	Peak
		00	02.12.	10110	1.55	5.100	11101	20100	21.01	reak
ST MC		TX-D	NH for	Test Cha		CH _{M2}		Polarity:		ertical
ST MC	DDE	TX-D VHF	NH for Band							
ST MC	DDE	TX-D	NH for Band				1 1-1 1			
	ODE OLeve	TX-D VHF	NH for Band							
	DDE	TX-D VHF	NH for Band						Ve	ertical
	ODE OLeve	TX-D VHF	NH for Band							ertical
	0 Leve	TX-D VHF	NH for Band					Polarity:	Ve	ertical
	ODE 0 Leve	TX-D VHF	NH for Band				2		Ve	ertical
	0 Leve -10	TX-D VHF	NH for Band				2	Polarity:	Ve	ertical
	0 Leve -10203040	TX-D VHF	NH for Band				2 3	Polarity:	Ve	ertical
	0 Leve -10	TX-D VHF	NH for Band				2 3	Polarity:	Ve	ertical
	0 Leve -10	TX-D VHF	NH for Band				2 3	Polarity:	Ve	ertical
	0 Leve -10	TX-D VHF	NH for Band				2	Polarity:	Ve	ertical
	0 Leve -10	TX-D VHF	NH for Band				2 3	Polarity:	Ve	ertical
	DDE O Leve -10 -20 -30 -40 -50 -60 -70	TX-D VHF	NH for Band				3	Polarity:	Ve	ertical
	0 Leve -10	TX-D VHF	NH for Band				3	Polarity:	Ve	ertical
	DDE O Leve -10 -20 -30 -40 -50 -60 -70	TX-D VHF	NH for Band				2	Polarity:	Ve	ertical
	-10 -20 -30 -40 -50 -60 -70 -80	TX-D VHF	NH for Band				2 3	Polarity:	Ve	ertical
	-10 -20 -30 -40 -50 -60 -70 -80	TX-D VHF	NH for Band				1000	Polarity:	-20	ertical
	-10 -20 -30 -40 -50 -60 -70 -80 -90	TX-D VHF I (dBm/m	NH for Band)	Test Cha		CH _{M2}	2	Polarity:	-20	ertical
Trac	-10 -20 -30 -40 -50 -60 -70 -80 -90 100 ₃₀ ce: (Disc	TX-D VHF I (dBm/m	NH for Band)	Test Cha	Frequen	CH _{M2}	1000	Polarity:	-2(ertical
	-10 -20 -30 -40 -50 -60 -70 -80 -90 100 ₃₀ ce: (Disc	TX-D VHF I (dBm/m	NH for Band)	Test Cha	Frequent Cable	500 cy (MHz)	1000 Level	Polarity:	-20	ertical
Trac Mark	-10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc	TX-D VHF I (dBm/m	NH for Band)	Test Cha	Frequence dB	500 cy (MHz) Preamp	1000 Level	Polarity:	-20 Over limit	ertical 0000 Remark
Trac Mark	-10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc	TX-D VHF I (dBm/m	NH for Band) 100 Reading dBm -75.39	Z00 Antenna dB 25.99	Frequence dB 1.55	500 cy (MHz) Preamp dB 29.09	1000 Level dBm -76.94	Polarity: 2000 Limit dBm -20.00	50 Over limit -56.94	ertical
Trac Mark	-10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc	TX-D VHF (dBm/m	NH for Band) 100 Reading dBm -75.39 -40.44	Z00 Antenna dB 25.99 31.62	Frequence dB	500 cy (MHz) Preamp dB 29.09	1000 Level dBm -76.94 -34.31	2000 Limit dBm -20.00 -20.00	50 Over limit -56.94 -14.31	ertical 0000 Remark Peak
Trac Mark 1 2	-10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc	TX-D VHF (dBm/m) 50 crete) quency HZ 79 15 95	NH for Band) 100 Reading dBm -75.39 -40.44 -43.67	Z00 Antenna dB 25.99	Frequent Cable dB 1.55 3.52 4.69	500 cy (MHz) Preamp dB 29.09 29.01 37.21	1000 Level dBm -76.94 -34.31 -39.42	Polarity: 2000 Limit dBm -20.00	50 Over limit -56.94 -14.31 -19.42	ertical Remark Peak Peak Peak
Trac Mark 1 2 3	DDE OLeve -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc Fre 184. 812. 1216.	TX-D VHF (dBm/m 50 crete) quency Hz 79 15 95 27	100 Reading dBm -75.39 -40.44 -43.67 -44.90	200 Antenna dB 25.99 31.62 36.77	Frequence Cable dB 1.55 3.52	500 cy (MHz) Preamp dB 29.09 29.01 37.21	1000 Level dBm -76.94 -34.31	2000 Limit dBm -20.00 -20.00 -20.00	50 Over limit -56.94 -14.31	ertical Doo Remark Peak Peak

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ST MO	DDE	TX-D VHF I	NH for Band	Test Cha	annel:	CH _{M3}		Polarity:	ŀ	Horizontal
	Level	(dBm/m))							
	0				- 11					
2	-10									
	00									20
-	-20							4		
	-30						1			~ ~ 1
	40								6	
•	-40						2	3	1	
4	-50					ttt	1-1-1-1-	1		
	-60						1.1.1			Mr.
	-00						1111.		The same	
-	-70					iii	The same	was well from the		
	-80		1			a washington	Manual Manual			
-	-00		A STATE OF THE PARTY OF THE PAR	powerholing	Bertenda dinastra	1000				
4	-90 where	ashew-works		LAND.		† <u>†</u>	1-1-1-1-			~ = 1
1	100	7.0								
-	10030	50	100	200	_	500	1000	2000		5000
Trac	ce: (Disci	ete)			Frequen	cy (MHz)				
Mark		uency	Reading	Antenna	Cable	Preamp	Level	Limit	Over	Remark
	ME		dBm	dB	dB	dB	dBm	dBm	limit	
1 2	88.6			27.16	1.08		-80.55	-20.00	-60.55	Peak
3	877.4 1312.5			31.75 37.38	3.68 4.85		-43.88 -49.02	-20.00 -20.00	-23.88 -29.02	Peak Peak
4	2189.7			41.56	6.43		-24.98	-20.00	-4.98	Peak
5	2626.5			39.36	6.97		-37.48	-20.00	-17.48	Peak
										reak
6	3503.4			41.17	8.12		-41.22	-20.00	-21.22	Peak
157.7	The Republication	6	-53.37	41.17	8.12	37.14		-20.00	-21.22	Peak
ST MO	The Republication	6 TX-D	-53.37 NH for		8.12				-21.22	
157/	DDE	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00	-21.22	Peak
157/	DDE	6 TX-D	-53.37 NH for Band	41.17	8.12	37.14		-20.00	-21.22	Peak
ST MO	ODE 0 Level	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00	-21.22	Peak
ST MO	DE	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00	-21.22	/ertical
ST MO	ODE 0 Level	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	Peak
ST MO	OLevel	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00	-21.22	/ertical
ST MO	ODE OLevel	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	/ertical
ST MO	OLevel	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	/ertical
ST MO	0 Level -10 -20 -30 -40	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	/ertical
ST MO	0 Level -10 -20 -30	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	/ertical
ST MO	0 Level -10 -20 -30 -40	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	/ertical
ST MO	0 Level -1020	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	/ertical
ST MO	0 Level -10 -20 -30	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	/ertical
ST MO	0 Level -1020	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	/ertical
ST MO	-10 -20 -30 -40 -50 -70	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	/ertical
ST MO	-10 -20 -30 -40 -50 -60 -70 -80	TX-D VHF I	-53.37 NH for Band	41.17	8.12	37.14		-20.00 Polarity:	-21.22	/ertical
ST MO	-10 -20 -30 -40 -50 -60 -70 -80	TX-D VHF I (dBm/m	-53.37 NH for Band)	Test Cha	8.12	37.14 CH _{M3}	-41.22	Polarity:	-21,22	/ertical
ST MO	DDE Object	TX-D VHF I (dBm/m	-53.37 NH for Band	41.17	annel:	37.14 CH _{M3}		-20.00 Polarity:	-21,22	/ertical
Trac	DDE O Level -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc	TX-D VHF I (dBm/m	-53.37 NH for Band)	Test Cha	8.12 annel: Frequen	500 ncy (MHz)	1000	-20.00 Polarity:	-21,22	/ertical
ST MO	DDE O	TX-D VHF I (dBm/m	NH for Band) 100 Reading	Test Cha	8.12 annel: Frequer Cable	500 ncy (MHz)	-41.22 2 1000 Level	Polarity:	-21.22	Peak /ertical
Trac Mark	DDE O	TX-D VHF I (dBm/m	NH for Band) 100 Reading dBm	Test Cha	Frequer Cable	500 ncy (MHz) Preamp	-41.22 2 1000 Level	Polarity:	Over limit	Peak /ertical
Trac Mark	DDE OLevel -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc	TX-D VHF I (dBm/m) 50 rete) ruency HZ 06	100 Reading dBm -80.47	Test Cha	Frequer Cable dB	500 ncy (MHz) Preamp dB 29.06	1000 Level dBm -81.47	2000 Limit dBm -20.00	Over limit -61.47	Peak /ertical 5000 Remark Peak
Trac Mark	DDE OLevel -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc Free M 190.1	TX-D VHF I (dBm/m) 50 rete) ruency 1Z 06	100 Reading dBm -80.47 -41.91	Z00 Antenna dB 26.48 31.62	Frequer Cable dB 1.58 3.68	500 ncy (MHz) Preamp dB 29.06 28.23	1000 Level dBm -81.47 -34.84	2000 Limit dBm -20.00 -20.00	Over limit -61.47 -14.84	Peak /ertical 5000 Remark Peak Peak
Trac Mark	DDE OLevel -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc Free M 190.1 877 1312.1	TX-D VHF I (dBm/m) 50 rete) quency 1Z 06 17	-53.37 NH for Band) 100 Reading dBm -80.47 -41.91 -47.25	200 Antenna dB 26.48 31.62 36.98	Frequer Cable dB 1.58 3.68 4.85	500 ncy (MHz) Preamp dB 29.06 28.23 37.16	1000 Level dBm -81.47 -34.84 -42.58	2000 Limit dBm -20.00 -20.00 -20.00	Over limit -61.47 -14.84 -22.58	Peak /ertical 5000 Remark Peak Peak Peak
Trac Mark	DDE OLevel -10 -20 -30 -40 -50 -60 -70 -80 -90 100 30 ce: (Disc Free M 190.1	TX-D VHF I (dBm/m) 50 rete) quency 1Z 06 17 58 32	100 Reading dBm -80.47 -41.91	Z00 Antenna dB 26.48 31.62	Frequer Cable dB 1.58 3.68	500 ncy (MHz) Preamp dB 29.06 28.23	1000 Level dBm -81.47 -34.84	2000 Limit dBm -20.00 -20.00	Over limit -61.47 -14.84	Peak /ertical 5000 Remark Peak Peak Peak Peak

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EST M	ODE	TX-DNH for VHF Band	Test C	hannel:	CH _H		Polarity:	Ho	orizontal
	Level (d	Bm/m)			- 44				
	0		1		1 1 1		1	1 1	7
	10				1	1-1-1-1			н
								-20	
	20								-
	30	-11-1-1-1-							
						2	4		
	40					1	3	6	
	50					1-1-1-1		1:1-11-	-1
	60				111	1 1 1			M.
	.00							May man	
	.70				·	The same	and what have	<i>C</i>	
	80				- header	Walter State of State			
1	-00	Market Market	randominations.	ath-hydrakening	WANT.				
	90 million	handred	***************************************		iii	1111			
4	30		i				1	1 1	
-	30	50 10	00 200		500	1000	2000	50	000
	e: (Discre				icy (MHz)				
Mark	Frequ				Preamp	Level	Limit	Over	Remark
	MHZ		dB	dB	dB	dBm eo Et	dBm	limit	Dank
1 2	89.55 941.41		27.35 31.61	1.09 3.78	28.99	-80.51 -40.46	-20.00 -20.00	-60.51 -20.46	Peak Peak
3	1408.90		37.68	5.03		-47.38	-20.00	-27.38	Peak
4	1879.30		37.22	6.08		-36.88	-20.00	-16.88	Peak
5	2350.46	-39.02	39.90	6.69		-30.02	-20.00	-10.02	Peak
6	3290.32	-58.48	40.60	7.83	37.32	-47.37	-20.00	-27.37	Peak
EST MO	ODE	TX-DNH for	Test C	hannel:	CH _H		Polarity:	Ve	ertical
		VHF Band							
	Level (dBm/m)						89	(90)
	U		1	9					
	-10		ļ						
	-20						- 4	-2	0
	1						4		
	-30					2			
					111.	1.1.	3 5	6	4.0
	40						Ť	T I	
	-40								
	-50		·					1 11	
	-50							مليارا	de
	-50 -60						ada an a anna	مليلملر	du.
	-50					W. W. W.	white	ململململ	den .
	-50 -60		11		معمدلمديد	No present	white	ململرارار	den .
	-50 -60 -70 -80		a conservation	de aller de la constitución de l	معسالمسب	No processor	July	لللملهل	do
	-50 -60 -70 -80	manutanan	water and the	aportena (porte o tra	- Land Jacob	www.	and a second	لللململ	den -
	-50 -60 -70 -80	The state of the s	Market Ma	a portugue para para para para para para para par	and when	and the same	white	للملال	da
	-50 -60 -70 -80	50 1	00 20		500	1000	2000	ملیلملمال 5	مد
Tra	-50 -60 -70 -80 -90 100 30 ce: (Discre	ete)		Freque	ncy (MHz)				
	-50 -60 -70 -80 -90 100 30 ce: (Discre	e <mark>te)</mark> iency Read	ing Antenn	Frequer a Cable	ncy (MHz) Preamp	Level	Limit	Over	000 Remark
Tra Mark	-50 -60 -70 -80 -90 100 30 ce: (Discre Frequency MH)	e <mark>te)</mark> nency Read Z dBm	ing Antenn dB	Frequer a Cable dB	ncy (MHz) Preamp dB	Level dBm	Limit dBm	Over limit	Remark
Tra Mark 1	-50 -60 -70 -80 -90 100 30 ce: (Discre Frequency MH) 58,93	ete) dency Read Z dBm 3 -80.59	ing Antenn dB 21.11	Frequer a Cable dB 0.90	ncy (MHz) Preamp dB 29.40	Level dBm -87.98	Limit dBm -20.00	Over limit -67.98	Remark Peak
Tra Mark 1 2	-50 -60 -70 -80 -90 100 30 ce: (Discre Frequency MH) 58.93 941.43	ete) nency Read Z dBm -80.59 L -44.29	ing Antenn dB 21.11 31.84	Frequer a Cable dB 0.90 3.78	Preamp dB 29.40 28.33	Level dBm -87.98 -37.00	Limit dBm -20.00 -20.00	Over limit -67.98 -17.00	Remark Peak Peak
Tra Mark 1 2 3	-50 -60 -70 -80 -90 100 30 ce: (Discrete of the control of	ete) aency Read dency Read -80.59 -44.29	ing Antenn dB 21.11 31.84 37.10	Frequer a Cable dB 0.90 3.78 5.03	Preamp dB 29.40 28.33 37.11	Level dBm -87.98 -37.00 -43.62	Limit dBm -20.00 -20.00 -20.00	Over limit -67.98 -17.00 -23.62	Remark Peak Peak Peak
Tra Mark 1 2 3	-50 -60 -70 -80 -90 100 30 ce: (Discrete of the control of	ete) aency Read dency Read -80.59 -44.29 -48.64	ing Antenn dB 21.11 31.84 37.10 37.70	Frequer a Cable dB 0.90 3.78 5.03 6.08	Preamp dB 29.40 28.33 37.11 37.49	Level dBm -87.98 -37.00 -43.62 -29.45	Limit dBm -20.00 -20.00 -20.00 -20.00	Over limit -67.98 -17.00 -23.62 -9.45	Remark Peak Peak Peak Peak
Tra Mark 1 2 3	-50 -60 -70 -80 -90 100 30 ce: (Discrete of the control of	ete) aency Read dBm 3 -80.59 L -44.29 0 -48.64 0 -35.74 5 -47.81	ing Antenn dB 21.11 31.84 37.10 37.70 40.10	Frequer a Cable dB 0.90 3.78 5.03	Preamp dB 29.40 28.33 37.11	Level dBm -87.98 -37.00 -43.62	Limit dBm -20.00 -20.00 -20.00	Over limit -67.98 -17.00 -23.62	Remark Peak Peak Peak

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5.11 AC Power Line Conducted Emission

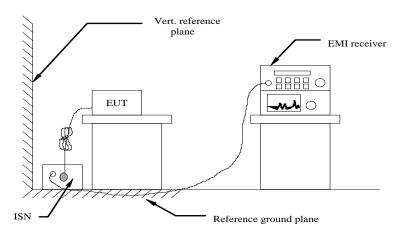
The frequency spectrum from 0.15 MHz to 30 MHz was investigated. The LISN used was 50 ohm / 50 u Henry as specified by section 5.1 of ANSI C63.4. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Limit

FCC part 15.107(a)

	Conducted limit (dBµV)	
Frequency of emission (MHz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

TEST CONFIGURATION



TEST PROCEDURE

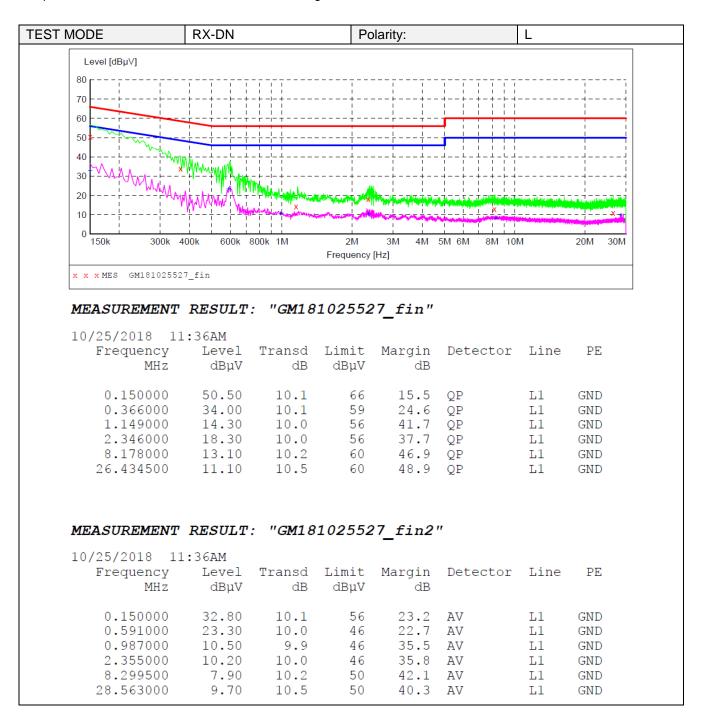
- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4
- 2 Support equipment, if needed, was placed as per ANSI C63.4
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4 If a EUT received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any
- The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.

TEST MODE

Please reference to the section 3.4

TEST RESULTS

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ST MODE	RX-DN		Р	olarity:		N	
Level [dBµV]							
80							
					1 1 1 1	i	
70		+ - + - - +		++-	++-+	!	
60					-	-	-
50	, 	- - - -	-	. – – – – – – –	-	i	- i - i
40		L _ L _ L				<u> </u>	
30						<u> </u>	
	MALAMAN	Third Walls and the same	i Mar umba sibiliau	ا : رياسية مسيمانيد لحامل	والمناء ليصاحبه	i	i il
20	- L -,- <u>- , L </u>		والمراجع والمراجع والمراجع	X I	i Xi	A PARTY OF THE PAR	
10				A PARTY OF THE PAR		X	
0 150k 3	300k 400k 600k	800k 1M	2M	3M 4M	5M 6M 8M 10	DM	20M 30M
150K 3	OUR 400K OUR	OUUK IIVI	Frequenc		SIM OIM OIM II	JIVI	20W 30W
VT 2 0 V1 0 1	005506 5'			,			
x x x MES GM181	1025526_fin						
МЕХ СПОЕМ І	ENT RESULT			(D T17)			
PIEASOREFIE	MI KESOHI	. GHIO	102332				
10/25/2018	11:33AM						
Frequen		Transd	Limit	Margin	Detector	Line	PE
-	Hz dBµV	dB	dΒμV	dB			
0.1500		10.1	66	12.5	~	N	GND
0.3390		10.1	59	20.7		N	GND
0.8475		9.9	56	34.1	QP	N	GND
2.3865		10.0	56	37.5	~	N	GND
6.4590		10.0	60	44.9		N	GND
15.2880	00 11.20	10.2	60	48.8	QP	N	GND
МЕХ СПОЕМ І	ENT RESULT	· "CM18	102552	6 fin2	"		
HEASOKEHI	ENI KESOHI	. GHIO	102332				
10/25/2018	11:33AM						
Frequen	cy Level	Transd		Margin	Detector	Line	PE
M	Hz dBµV	dB	dΒμV	dB			
0.1590		10.1	56	19.0	AV	N	GND
0.5910		10.0	46	20.5		N	GND
1.1175		10.0	46	31.4		N	GND
2.3145		10.0	46	34.6		N	GND
5.7255		10.0	50	39.5	VA	N	GND
29.2335	00 10.80	10.5	50	39.2	AV	N	GND

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5.12 Radiated Emission

LIMIT

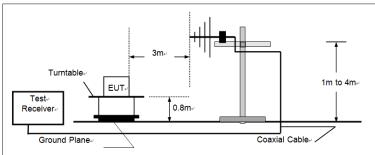
For unintentional device, according to § 15.109(a) except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of emission (MHz)	Field strength (microvolts/meter)
30-88	100
88-216	150
216-960	200
Above 960	500

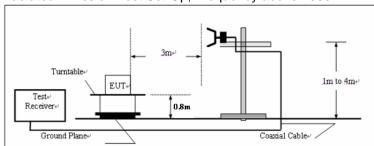
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

TEST CONFIGURATION

(A) Radiated Emission Test Set-Up, Frequency below 1000MHz



(B) Radiated Emission Test Set-Up, Frequency above 1000MHz



TEST PROCEDURE

- 1 The EUT was placed on a turn table which is 0.8m above ground plane.
- 2 Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360°C to acquire the highest emissions from EUT
- 3 And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 4 Repeat above procedures until all frequency measurements have been completed.

TEST MODE

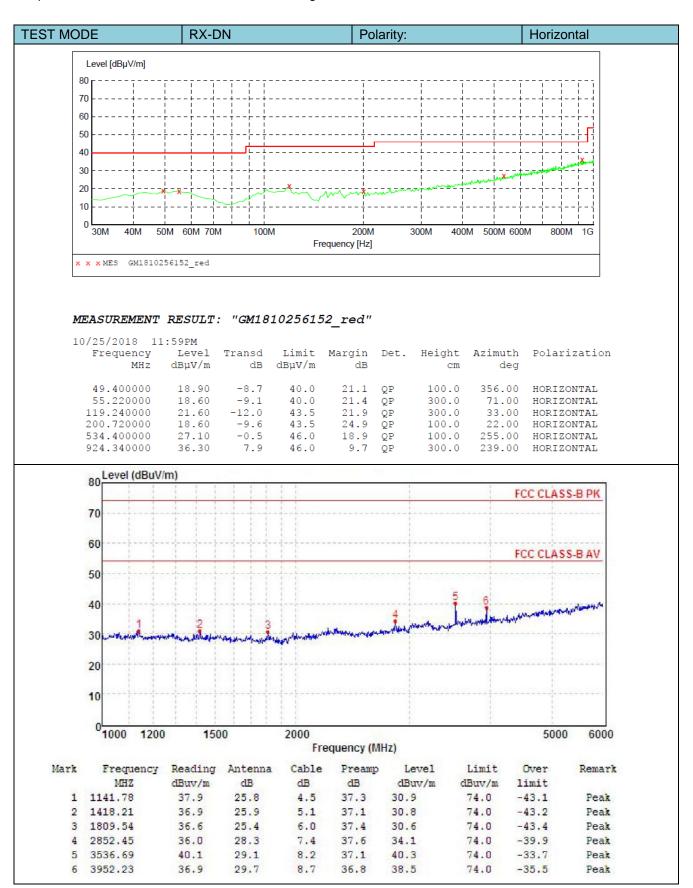
Please reference to the section 3.4

TEST RESULTS

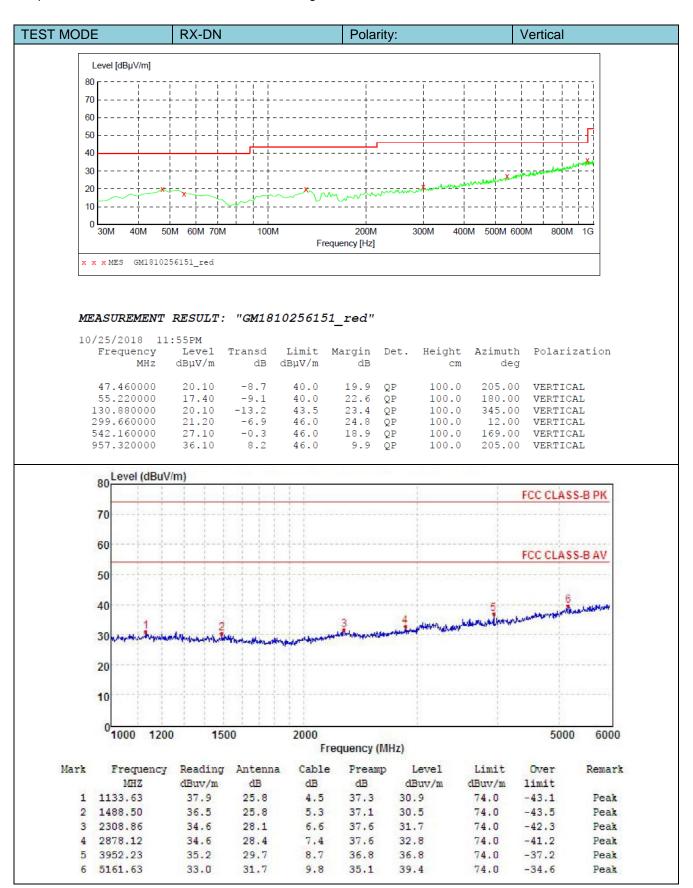
Note:

The EUT shall be scanned from 30 MHz to the 5th harmonic of the highest oscillator frequency in the digital devices or 1 GHz whichever is higher.

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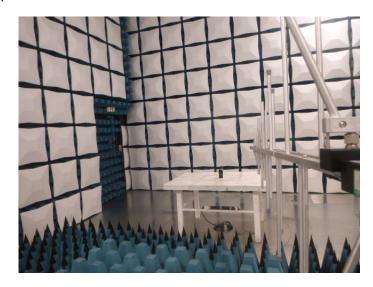
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6 TEST SETUP PHOTOS OF THE EUT

Transmitter Radiated Spurious Emission:





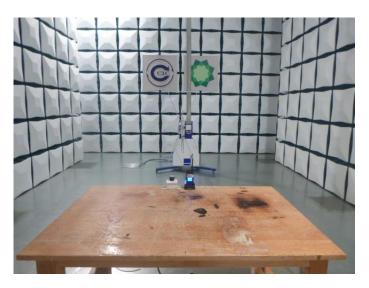
Frequency Stability:

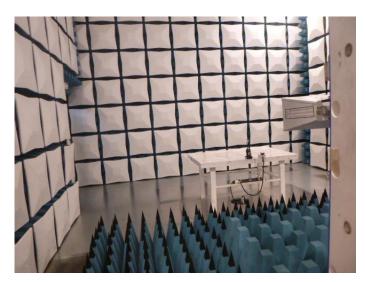


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Radiated Emission:







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Conducted Emission:



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7 EXTERNAL AND INTERNAL PHOTOS OF THE EUT External Photos of the EUT







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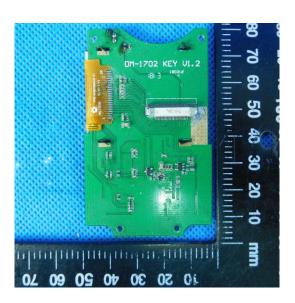
Internal Photos of the EUT

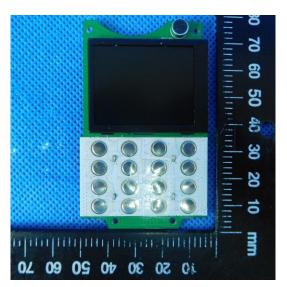


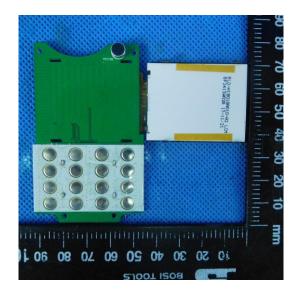




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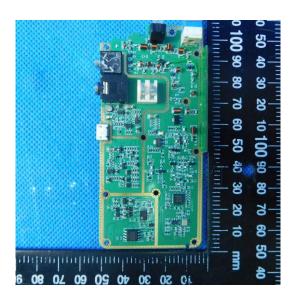




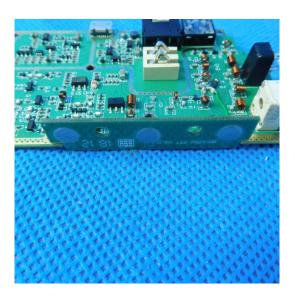
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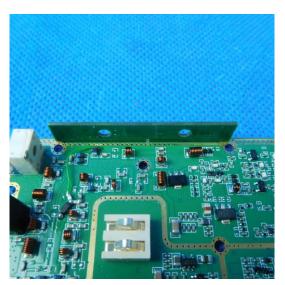






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8 APPENDIX REPORT



Appendix A:Maximum Transmitter Power For VHF Band

Operation Mode	Modulation Type	Test Channel	Measured Power(dBm)	Measured Power(W)	Rated Power(W)	Percentage (%)	Limit (%)	Result
TX-DNH	4FSK	CH∟	36.7	4.68	5.00	-6.5	±20	PASS
TX-DNH	4FSK	CH _M	36.7	4.68	5.00	-6.5	±20	PASS
TX-DNH	4FSK	CH _H	36.8	4.79	5.00	-4.3	±20	PASS
TX-DNL	4FSK	CH∟	29.2	0.83	1.00	-16.8	±20	PASS
TX-DNL	4FSK	CH _M	29.3	0.85	1.00	-14.9	±20	PASS
TX-DNL	4FSK	CH _H	29.8	0.95	1.00	-4.5	±20	PASS



Appendix A:Maximum Transmitter Power For UHF Band

Operation Mode	Modulation Type	Test Channel	Measured Power(dBm)	Measured Power(W)	Rated Power(W)	Percentage (%)	Limit (%)	Result
TX-DNH	4FSK	CH _{L1}	36.8	4.79	5.00	-4.3	±20	PASS
TX-DNH	4FSK	CH _{M1}	36.8	4.79	5.00	-4.3	±20	PASS
TX-DNH	4FSK	CH _{M2}	36.9	4.90	5.00	-2.0	±20	PASS
TX-DNH	4FSK	CH _{M3}	36.7	4.68	5.00	-6.5	±20	PASS
TX-DNH	4FSK	CH _{H1}	36.8	4.79	5.00	-4.3	±20	PASS
TX-DNL	4FSK	CH _{L1}	29.1	0.81	1.00	-18.7	±20	PASS
TX-DNL	4FSK	CH _{M1}	29.4	0.87	1.00	-12.9	±20	PASS
TX-DNL	4FSK	CH _{M2}	29.4	0.87	1.00	-12.9	±20	PASS
TX-DNL	4FSK	CH _{M3}	29.5	0.89	1.00	-10.9	±20	PASS
TX-DNL	4FSK	CH _{H1}	29.5	0.89	1.00	-10.9	±20	PASS

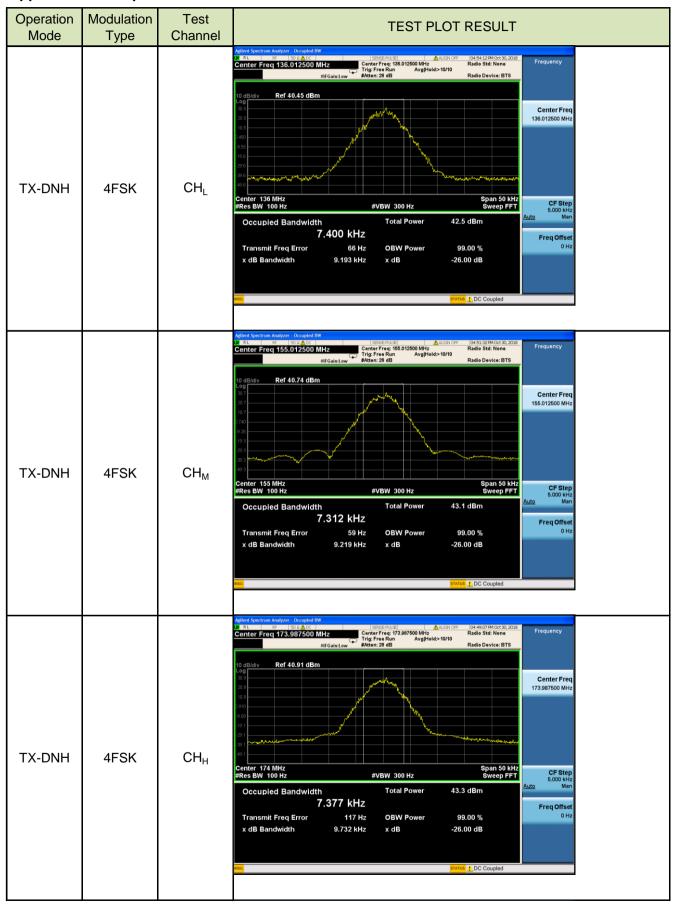


Appendix B:Occupied Bandwidth For VHF Band

Operation	Modulation	Test	Occupied Bandwidth		99% Limit(kHz)	Result
Mode	Type	Channel	99%(kHz)	26dB(kHz)	99 /6 LIIIII(KHZ)	Kesuit
TX-DNH	4FSK	CH∟	7.400	9.193	≤11.25	PASS
TX-DNH	4FSK	CH _M	7.312	9.219	≤11.25	PASS
TX-DNH	4FSK	CH _H	7.377	9.732	≤11.25	PASS
TX-DNL	4FSK	CH∟	7.511	9.719	≤11.25	PASS
TX-DNL	4FSK	CH _M	7.088	9.171	≤11.25	PASS
TX-DNL	4FSK	CH _H	7.233	9.491	≤11.25	PASS

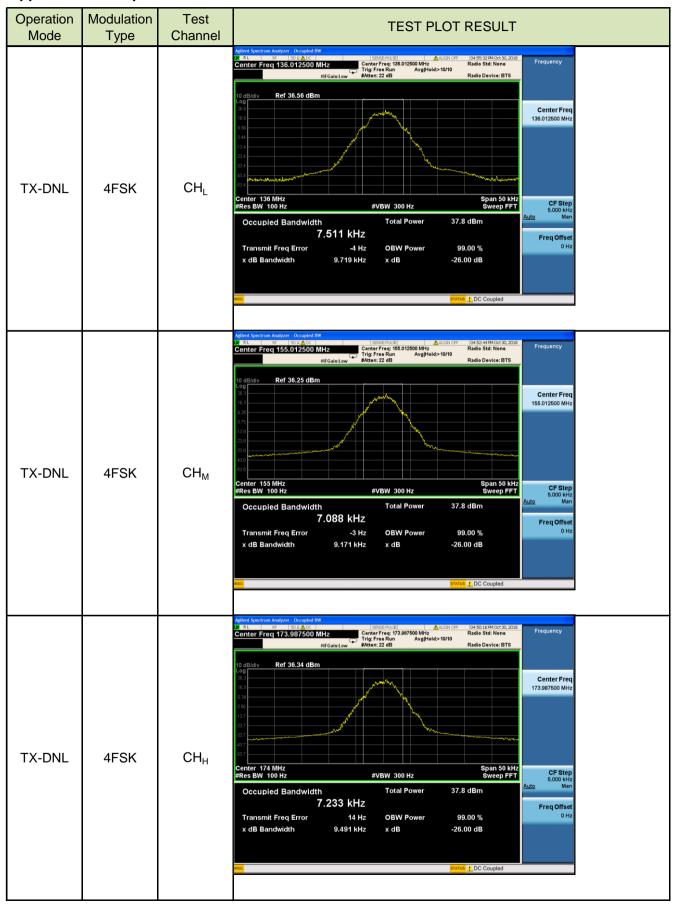


Appendix B:Occupied Bandwidth For VHF Band





Appendix B:Occupied Bandwidth For VHF Band





Appendix B:Occupied Bandwidth For UHF Band

Operation	Modulation	Test	Occupied Bandwidth		99% Limit(kHz)	Result	
Mode	Type	Channel	99%(kHz)	26dB(kHz)	99 /6 LIIIII(KI12)	Result	
TX-DNH	4FSK	CH _{L1}	7.670	9.588	≤11.25	PASS	
TX-DNH	4FSK	CH _{M1}	7.638	9.525	≤11.25	PASS	
TX-DNH	4FSK	CH _{M2}	7.938	9.580	≤11.25	PASS	
TX-DNH	4FSK	CH _{M3}	7.597	9.962	≤11.25	PASS	
TX-DNH	4FSK	CH _{H1}	7.764	9.646	≤11.25	PASS	
TX-DNL	4FSK	CH _{L1}	7.710	9.639	≤11.25	PASS	
TX-DNL	4FSK	CH _{M1}	7.271	9.155	≤11.25	PASS	
TX-DNL	4FSK	CH _{M2}	7.722	9.585	≤11.25	PASS	
TX-DNL	4FSK	CH _{M3}	7.818	9.794	≤11.25	PASS	
TX-DNL	4FSK	CH _{H1}	7.668	9.717	≤11.25	PASS	



Appendix B:Occupied Bandwidth For UHF Band

