

Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC161607

Page: 1 of 38

FCC Radio Test Report FCC ID: A6E-IDC1281H

Report No. : TB-FCC161607

Applicant: Zhejiang Feishen Vehicle Co.,Ltd.

Equipment Under Test (EUT)

EUT Name : 5.8G Video downlink transmitter

Model No. : IDC1281H

Serial Model No. : 731133C, 29290, 731132FPV, IDC1280H

Brand Name : FEISHEN

Receipt Date : 2018-08-15

Test Date : 2018-08-16 to 2018-08-23

Issue Date : 2018-08-24

Standards : FCC Part 15, Subpart C (15.249: 2018)

Test Method : ANSI C63.10: 2013

Conclusions : PASS

In the configuration tested, the EUT complied with the standards specified above,

The EUT technically complies with the FCC requirements

Jason xu

Test/Witness Engineer :

the report.

Engineer Supervisor : 7/1/20 SV

Approved & Authorized : Kuy ka.

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in

TB-RF-074-1.0



Page: 2 of 38

Contents

COI	NTENTS	2
1.	GENERAL INFORMATION ABOUT EUT	4
	1.1 Client Information	4
	1.2 General Description of EUT (Equipment Under Test)	4
	1.3 Block Diagram Showing the Configuration of System Tested	5
	1.4 Description of Support Units	5
	1.5 Description of Test Mode	6
	1.6 Description of Test Software Setting	6
	1.7 Measurement Uncertainty	7
	1.8 Test Facility	7
2.	TEST SUMMARY	8
3.	TEST EQUIPMENT	9
4.	CONDUCTED EMISSION TEST	10
	4.1 Test Standard and Limit	
	4.2 Test Setup	
	4.3 Test Procedure	
	4.4 EUT Operating Mode	
	4.5 Test Data	
5.	RADIATED EMISSION TEST	
	5.1 Test Standard and Limit	
	5.2 Test Setup	
	5.3 Test Procedure	
	5.4 EUT Operating Condition	15
	5.5 Test Data	
6.	BANDWIDTH TEST	16
	6.1 Test Setup	16
	6.2 Test Procedure	
	6.3 EUT Operating Condition	16
	6.4 Test Data	16
7.	ANTENNA REQUIREMENT	17
	7.1 Standard Requirement	17
	7.2 Antenna Connected Construction	
	7.3 Result	17
ATT	FACHMENT ACONDUCTED EMISSION TEST DATA	
	FACHMENT B RADIATED EMISSION TEST DATA	
	FACHMENT C BANDWIDTH DATA	36



Page: 3 of 38

Revision History

Report No.	Version	Description	Issued Date
TB-FCC161607	Rev.01	Initial issue of report	2018-08-24
	600		W. Commission of the Commissio
1		CODY TO	A TO
	mr BY		
1 Comment		MORA MORA	
THE PERSON NAMED IN	ani 3	4000	TO THE
The same	3 6	UST LOOP	The state of the s
	angy '	4000	
		333	The same
	103 F	CONTRACTOR OF THE PARTY OF THE	THE REAL PROPERTY.
	m B		U
3 100	(13) V		



Page: 4 of 38

1. General Information about EUT

1.1 Client Information

Applicant : Zhejiang Feishen Vehicle Co.,Ltd.			
Address : North Lake Road Hardware Science And Technology In Province Yong Kang, 321300, China		North Lake Road Hardware Science And Technology In ZheJiang Province Yong Kang, 321300, China	
Manufacturer		SHENZHEN INNOVATION DIGITAL COMMUNICATIONS CO.,LTD.	
Address		5 floor, Jinlihua Business Building, Park Road, 31 District, Baoan, Shenzhen, China	

1.2 General Description of EUT (Equipment Under Test)

ŀ	5.8G Video downlink transmitter			
:	IDC1281H, 731133C, 29290, 731132FPV, IDC1280H			
	All these models are identical in the same PCB, layout and electric circuit, the only difference is model name for commercial.			
	Operation Frequency:	5732~5866 MHz		
	Number of Channel:	32 Channels see note (2)		
i	Output power:	99.03 dBuV/m@3m Peak 91.65 dBuV/m@3m Avg		
	Antenna Gain: 2 dBi Dipole Antenna			
	Modulation Type:	FM		
	DC 5.0V.	The state of the s		
:				
5				
:	Please refer to the User's Manual			
		: IDC1281H, 731133C, 2 : All these models are idecircuit, the only different Operation Frequency: Number of Channel: : Output power: Antenna Gain: Modulation Type: : DC 5.0V. : N/A : N/A		

Note:

(1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

(2) Channel List:

				1	Chani	nel		The second	
S S III		CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
	FR1	5740MHz	5760MHz	5780MHz	5800MHz	5820MHz	5840MHz	5860MHz	5860MHz
	FR2	5865MHz	5845MHz	5825MHz	5805MHz	5785MHz	5765MHz	5745MHz	5745MHz
FR	FR3	5732MHz	5732MHz	5732MHz	5769MHz	5806MHz	5843MHz	5843MHz	5843MHz
	FR4	5733MHz	5752MHz	5771MHz	5790MHz	5809MHz	5828MHz	5847MHz	5866MHz
Note:	Note: The Channel 5732MHz 5800MHz 5866MHz were selected for test								

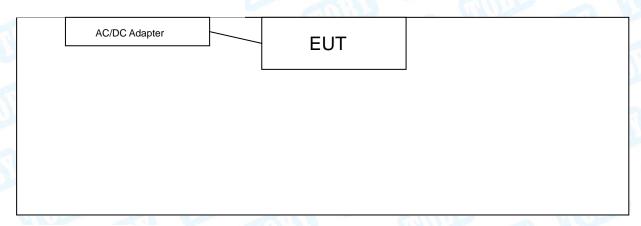




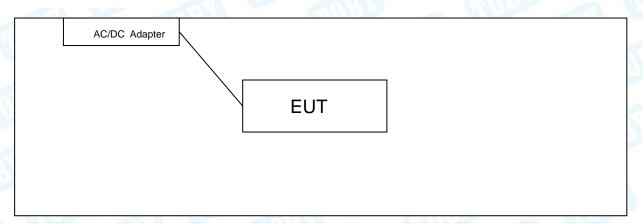
Page: 5 of 38

1.3 Block Diagram Showing the Configuration of System Tested

Mode 1: Charging+TX Mode



Mode 2: TX Mode



1.4 Description of Support Units

Equipment Information							
Name	Model	FCC ID/VOC	Manufacturer	Used "√"			
AC/DC Adapter	TEKA012	VOC	TEKA	√			
AC/DC Adapter: Input:100~240V, 50/60Hz, 0.2A. Output: 5V, 1A							



Report No.: TB-FCC161607 Page: 6 of 38

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test						
Final Test Mode Description						
Mode 1 Charging+TX Mode						
	For Radiated Test					
Final Test Mode Description						
Mode 1 TX Mode(5732MHz/5800MHz/5866MHz)						

Note:

For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

- (1)According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels.
- (2)During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

1.6 Description of Test Software Setting

During testing channel & Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF mode.

Product SW/HW Version :	1000	N/A	THE STATE OF THE S		
Radio SW/HW Version:	N/A				
Test Software Version	N/A				
Frequency	5732 MHz	5800MHz	5866 MHz		
FM	3	3	3		



Page: 7 of 38

1.7 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U _{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	±3.42 dB ±3.42 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.40 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.



Page: 8 of 38

2. Test Summary

FCC Part 15 Subpart C(15.249)					
Standard Section	Test Item	Judgment	Remark		
15.203	Antenna Requirement	PASS	N/A		
15.205	Restricted Bands	PASS	N/A		
15.207	AC Power Conducted Emission	PASS	N/A		
15.249 &15.209	Radiated Spurious Emission	PASS	N/A		
15.215(C)	20dB Bandwidth	PASS	N/A		



Page: 9 of 38

3. Test Equipment

Conducted Emission	Test				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 18, 2018	Jul. 17, 2019
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 18, 2018	Jul. 17, 2019
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 18, 2018	Jul. 17, 2019
LISN	Rohde & Schwarz	ENV216	101131	Jul. 18, 2018	Jul. 17, 2019
Radiation Emission T	Test Test				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 18, 2018	Jul. 17, 2019
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 18, 2018	Jul. 17, 2019
EMI Test Receiver	Rohde & Schwarz	FSW43	103942	Jul. 18, 2018	Jul. 17, 2019
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar.16, 2018	Mar. 15, 201
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar.16, 2018	Mar. 15, 201
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.16, 2018	Mar. 15, 201
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar.16, 2018	Mar. 15, 201
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	Jul. 18, 2018	Jul. 17, 2019
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jul. 03, 2018	Jul. 02, 2019
Pre-amplifier	Sonoma	310N	185903	Mar.17, 2018	Mar. 16, 201
Pre-amplifier	HP	8449B	3008A00849	Mar.17, 2018	Mar. 16, 201
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.17, 2018	Mar. 16, 201
Antenna Conducted I	Emission				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 18, 2018	Jul. 17, 2019
Spectrum Analyzer	Rohde & Schwarz	ESCI	100010/007	Jul. 18, 2018	Jul. 17, 2019
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Oct. 26, 2017	Oct. 25, 201
Vector Signal Generator	Agilent	N5182A	MY50141294	Oct. 26, 2017	Oct. 25, 201
Analog Signal Generator	Agilent	N5181A	MY50141953	Oct. 26, 2017	Oct. 25, 201
MUDDE	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO26	Oct. 26, 2017	Oct. 25, 201
DE Dower Conser	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO29	Oct. 26, 2017	Oct. 25, 201
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO31	Oct. 26, 2017	Oct. 25, 201
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO33	Oct. 26, 2017	Oct. 25, 201



Page: 10 of 38

4. Conducted Emission Test

4.1 Test Standard and Limit

4.1.1Test Standard FCC Part 15.207

4.1.2 Test Limit

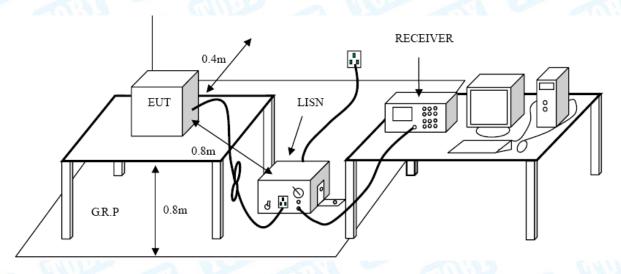
Conducted Emission Test Limit

	Maximum RF Line Voltage (dBμV)		
Frequency	Quasi-peak Level	Average Level	
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *	
500kHz~5MHz	56	46	
5MHz~30MHz	60	50	

Notes:

- (1) *Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2 Test Setup



4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



Page: 11 of 38

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN is at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

4.4 EUT Operating Mode

Please refer to the description of test mode.

4.5 Test Data

Please refer to the Attachment A.



Page: 12 of 38

5. Radiated Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209

5.1.2 Test Limit

Radiated Emission Limit (9kHz~1000MHz)

Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Radiated Emission Limit (Above 1000MHz)

Frequency	(dBuV/m)(at 3 M)				
(MHz)	Peak	Average			
Above 1000	74	54			

Note:

(1) The tighter limit applies at the band edges.

(2) Emission Level(dBuV/m)=20log Emission Level(Uv/m)

Limits of radiated emission measurement (15.249)

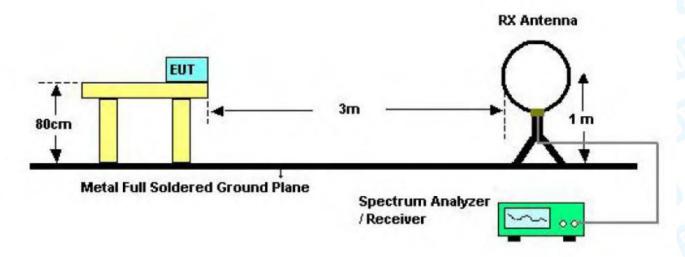
FCC Part 15 (15.249), Subpart C						
Limit Frequency Range (MHz)						
Field strength of fundamental 50000 μV/m (94 dBμV/m) @ 3 m	5725~5875					
Field strength of harmonics 500 μV/m (54 dBμV/m) @ 3 m	Below 5725 and Above 5875					

Restricted bands requirement for equipment operating in 5725MHz to 5875 MHz (15.249)

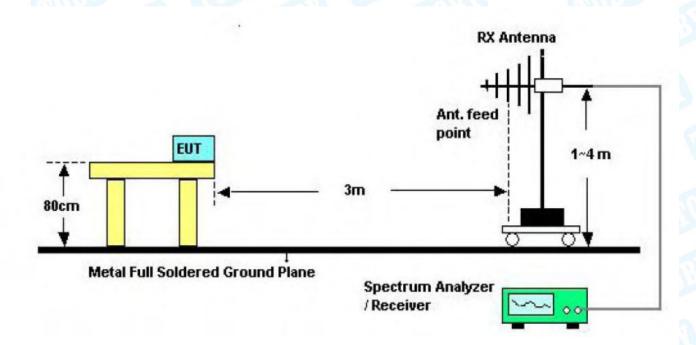


Restricted Frequency Band (MHz)	(dBuV/m)(at 3 M)
5725~5875	Attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in 15.209, whichever is the lesser attenuation

5.2 Test Setup



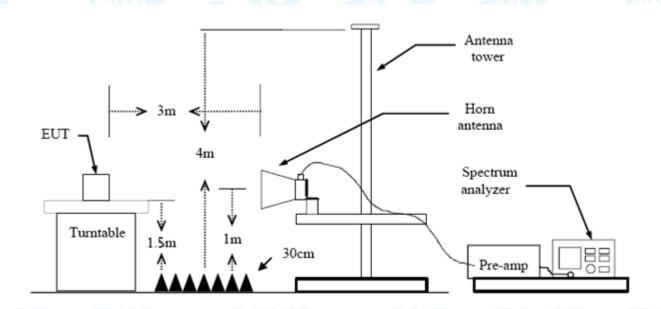
Bellow 30MHz Test Setup



Below 1000MHz Test Setup

Report No.: TB-FCC161607 Page: 14 of 38





Above 1GHz Test Setup

5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.



Page: 15 of 38

5.4 EUT Operating Condition

The EUT was set to Continual Transmitting in maximum power, and new batteries are used during testing.

5.5 Test Data

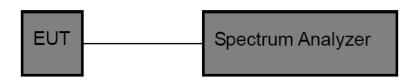
Please refer to the Attachment B.



Page: 16 of 38

6. Bandwidth Test

6.1 Test Setup



6.2 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting:

Bandwidth: RBW=100 kHz, VBW=300kHz.

(3) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.

6.3 EUT Operating Condition

The EUT was set to continuously transmitting for the Bandwidth Test.

6.4 Test Data

Please refer to the Attachment C.



Page: 17 of 38

7. Antenna Requirement

7.1 Standard Requirement

7.1.1 Standard FCC Part 15.203

7.1.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

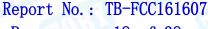
7.2 Antenna Connected Construction

The gains of the antenna used for transmitting is 2 dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

7.3 Result

The EUT antenna is a Dipole Antenna. It complies with the standard requirement.

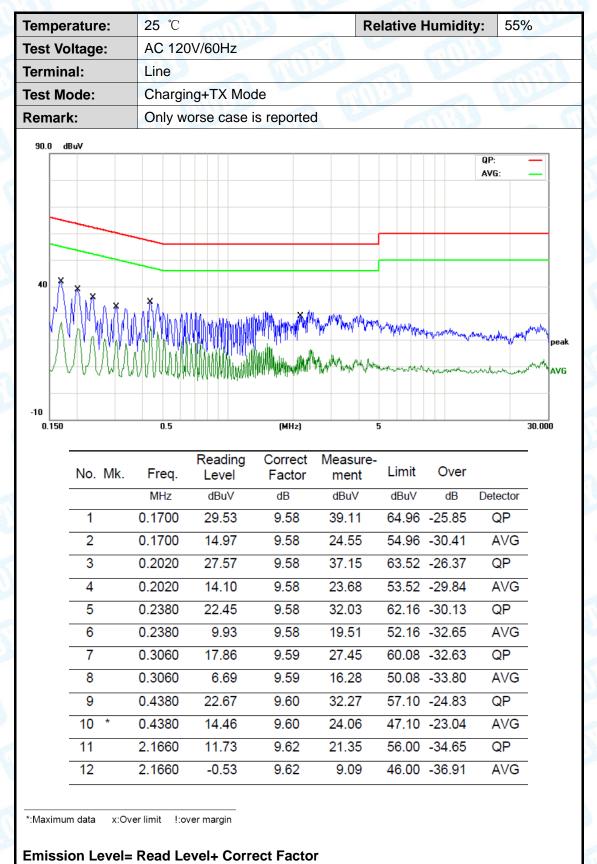
	Antenna Type
	□ Permanent attached antenna
All to	▼ Unique connector antenna
mnBY	□ Professional installation antenna





Page: 18 of 38

Attachment A--Conducted Emission Test Data







Page: 19 of 38

Tempera	ture:	25 ℃				Relative	Humidity	y: 55	5%
Test Volt	age:	AC 120\	//60Hz	33		IIII)		2	
Terminal	l:	Neutral	A STATE OF THE STA		2.0		an's	77	
Test Mod	de:	Charging	g+TX Mod	е			600		
Remark:		Only wo	rse case is	reported	M	1100		1/1	1 500
90.0 dBuV									
								QP: AVG:	
*									
40 \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	*								
- IV \N	Maria Na	اللامد (۱۸ 🛪 ۸	uhan Hillian	adiadahan	ير برائد بالد				
1,74	1. A.A.A.A.	//WW///Ma	ALLA A DI MALA DA MATIN		halithiga gazhai	hadinanan hara	Maryanaharma		athen March
1/1/0	<u>/\.'.'</u>	K V K V V V V V V V V V V V V V V V V V	A B K B L B L L B L B L B L B L B L B L B	Appropriate a			The state of the s	And Marked Holes	pe
ן עייען	1 a N - MAN	XVXVIIIM			William And Andrew	Myyenmen	Sand Market Market		~,_/^\\.m\\
-10									
-10 0.150		0.5	'	(MHz)		5			30.000
0.150			Reading	Correct	Measu	re-	0		30.000
0.150	lo. Mk.	Freq.	Level	Correct Factor	ment	re- Limit	Over		_
0.150		Freq.	Level dBuV	Correct Factor	ment dBuV	re- Limit	dB	Detector	_
0.150	1	Freq. MHz 0.1500	dBuV 11.56	Correct Factor dB	ment dBuV 21.20	Limit dBuV 65.99	dB -44.79	QP	
0.150 N	1 2	Freq. MHz 0.1500 0.1500	dBuV 11.56 -2.09	Correct Factor dB 9.64 9.64	ment dBuV 21.20 7.55	Limit dBuV 65.99 55.99	dB -44.79 -48.44	QP AVG	
0.150 N	1 2 3	Freq. MHz 0.1500 0.1500 0.1900	Level dBuV 11.56 -2.09 5.39	Correct Factor dB 9.64 9.64 9.65	ment dBuV 21.20 7.55 15.04	Limit dBuV 65.99 55.99 64.03	dB -44.79 -48.44 -48.99	QP AVG QP	- - - -
0.150 N	1 2	Freq. MHz 0.1500 0.1500 0.1900 0.1900	Level dBuV 11.56 -2.09 5.39 -3.45	Correct Factor dB 9.64 9.64	ment dBuV 21.20 7.55 15.04 6.20	Limit dBuV 65.99 55.99 64.03 54.03	dB -44.79 -48.44 -48.99 -47.83	QP AVG	- - - -
0.150 N	1 2 3	Freq. MHz 0.1500 0.1500 0.1900	Level dBuV 11.56 -2.09 5.39	Correct Factor dB 9.64 9.64 9.65	ment dBuV 21.20 7.55 15.04	Limit dBuV 65.99 55.99 64.03 54.03	dB -44.79 -48.44 -48.99	QP AVG QP	- - - -
0.150 N	1 2 3 4	Freq. MHz 0.1500 0.1500 0.1900 0.1900	Level dBuV 11.56 -2.09 5.39 -3.45	Correct Factor dB 9.64 9.64 9.65 9.65	ment dBuV 21.20 7.55 15.04 6.20	Limit dBuV 65.99 55.99 64.03 62.59	dB -44.79 -48.44 -48.99 -47.83	QP AVG QP AVG	
0.150 N	1 2 3 4 5	Freq. MHz 0.1500 0.1500 0.1900 0.1900 0.2260	Level dBuV 11.56 -2.09 5.39 -3.45 7.08	Correct Factor dB 9.64 9.64 9.65 9.65 9.65	ment dBuV 21.20 7.55 15.04 6.20 16.71	Limit dBuV 65.99 55.99 64.03 62.59 52.59	dB -44.79 -48.44 -48.99 -47.83 -45.88	QP AVG QP AVG	
0.150 N	1 2 3 4 5	Freq. MHz 0.1500 0.1500 0.1900 0.1900 0.2260 0.2260	Level dBuV 11.56 -2.09 5.39 -3.45 7.08 -1.59	Correct Factor dB 9.64 9.64 9.65 9.65 9.63	ment dBuV 21.20 7.55 15.04 6.20 16.71 8.04	Limit dBuV 65.99 55.99 64.03 62.59 52.59 61.24	dB -44.79 -48.44 -48.99 -47.83 -45.88 -44.55	QP AVG QP AVG QP	
0.150 N	1 2 3 4 5 6 7	Freq. MHz 0.1500 0.1500 0.1900 0.1900 0.2260 0.2260 0.2600	Level dBuV 11.56 -2.09 5.39 -3.45 7.08 -1.59 18.66	Correct Factor dB 9.64 9.65 9.65 9.63 9.63 9.60	ment dBuV 21.20 7.55 15.04 6.20 16.71 8.04 28.26	Limit dBuV 65.99 55.99 64.03 62.59 52.59 61.24 51.24	dB -44.79 -48.44 -48.99 -47.83 -45.88 -44.55 -32.98	QP AVG QP AVG QP AVG QP	
0.150 N	1 2 3 4 5 6 7	Freq. MHz 0.1500 0.1500 0.1900 0.1900 0.2260 0.2260 0.2660 0.2660	Level dBuV 11.56 -2.09 5.39 -3.45 7.08 -1.59 18.66 0.23	Correct Factor dB 9.64 9.64 9.65 9.65 9.63 9.63 9.60	ment dBuV 21.20 7.55 15.04 6.20 16.71 8.04 28.26 9.83	Limit dBuV 65.99 55.99 64.03 54.03 62.59 52.59 61.24 51.24 60.19	dB -44.79 -48.44 -48.99 -47.83 -45.88 -44.55 -32.98 -41.41	QP AVG QP AVG QP AVG	
0.150 N	1 2 3 4 5 6 7 8	Freq. MHz 0.1500 0.1500 0.1900 0.1900 0.2260 0.2260 0.2660 0.2660 0.3020	Level dBuV 11.56 -2.09 5.39 -3.45 7.08 -1.59 18.66 0.23 15.60	Correct Factor dB 9.64 9.64 9.65 9.63 9.63 9.60 9.60 9.57	ment dBuV 21.20 7.55 15.04 6.20 16.71 8.04 28.26 9.83 25.17	Limit dBuV 65.99 55.99 64.03 54.03 62.59 52.59 61.24 60.19 50.19	dB -44.79 -48.44 -48.99 -47.83 -45.88 -44.55 -32.98 -41.41 -35.02	QP AVG QP AVG QP AVG QP AVG	

*:Maximum data x:Over limit !:over margin





Page: 20 of 38

Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 240V/60Hz		
Terminal:	Line		
Test Mode:	Charging+TX Mode	MU22	
Remark:	Only worse case is reported		
90.0 dBu∀			
		QI	P: — /G: —
40 1 1 1 1 1 1			
LANDAN WAY	J. L.	M. AMARIA A.	
110000000000000000000000000000000000000	distribbled to the subbodies of any of the	Var Varanin	WALANDON B
- KAANAAAA	A A Charles MARINE Line Committee Committee Committee Committee Committee Committee Committee Committee Commit	Var Vannaga	
1 , 1 , 1	N.D. A. It. Barner B. a. Andrew Jode W. Miller	MM	whompourmenter
-10			

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	0.1700	7.32	9.58	16.90	64.96	-48.06	QP
2	0.1700	-2.86	9.58	6.72	54.96	-48.24	AVG
3	0.2060	6.65	9.58	16.23	63.36	-47.13	QP
4	0.2060	-2.08	9.58	7.50	53.36	-45.86	AVG
5	0.3060	19.33	9.59	28.92	60.08	-31.16	QP
6	0.3060	7.71	9.59	17.30	50.08	-32.78	AVG
7	0.4740	8.58	9.60	18.18	56.44	-38.26	QP
8	0.4740	-2.29	9.60	7.31	46.44	-39.13	AVG
9	0.7580	13.90	9.61	23.51	56.00	-32.49	QP
10	0.7580	-2.62	9.61	6.99	46.00	-39.01	AVG
11 *	1.3980	20.45	9.60	30.05	56.00	-25.95	QP
12	1.3980	9.88	9.60	19.48	46.00	-26.52	AVG

^{*:}Maximum data x:Over limit !:over margin

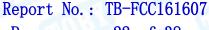


21 of 38 Page:



mperature:	25 ℃		2 K	Rela	ative Hu	midity:	55%
st Voltage:	AC 240	0V/60Hz	13		113		
rminal:	Neutra	N. S.		1.1	6	UP_{β}	
st Mode:	Chargii	ng+TX Mod	е				
emark:	Only w	orse case is	reported			1	Marc.
40 x				Ž///×	~~\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	QP: AVG:	peak
-10 0.150	o.	5	(MHz)	5	VVVVVV	VVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVV	30.000
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
No. Mk.	Freq.				Limit dBuV	Over	Detector
No. Mk.	<u> </u>	Level	Factor	ment	dBuV		Detector
	MHz	Level dBuV	Factor dB	ment dBuV	dBuV 65.78	dB	
1	MHz 0.1539	dBuV 27.71	Factor dB 9.58	ment dBuV 37.29	dBuV 65.78 55.78	dB -28.49	QP
1 2	MHz 0.1539 0.1539	dBuV 27.71 10.04	9.58 9.58	ment dBuV 37.29 19.62	dBuV 65.78 55.78 56.00	dB -28.49 -36.16	QP AVG
1 2 3 *	MHz 0.1539 0.1539 0.7300	dBuV 27.71 10.04 20.23	9.58 9.58 9.61	ment dBuV 37.29 19.62 29.84	dBuV 65.78 55.78 56.00 46.00	dB -28.49 -36.16 -26.16	QP AVG QP
1 2 3 * 4	MHz 0.1539 0.1539 0.7300 0.7300	Level dBuV 27.71 10.04 20.23 10.01	9.58 9.58 9.61 9.61	ment dBuV 37.29 19.62 29.84 19.62	dBuV 65.78 55.78 56.00 46.00 56.00	dB -28.49 -36.16 -26.16 -26.38	QP AVG QP AVG
1 2 3 * 4 5	MHz 0.1539 0.1539 0.7300 0.7300 1.4020	Level dBuV 27.71 10.04 20.23 10.01 18.52	9.58 9.58 9.61 9.61 9.60	ment dBuV 37.29 19.62 29.84 19.62 28.12	dBuV 65.78 55.78 56.00 46.00 56.00	dB -28.49 -36.16 -26.16 -26.38 -27.88	QP AVG QP AVG
1 2 3 * 4 5 6	MHz 0.1539 0.1539 0.7300 0.7300 1.4020 1.4020	Level dBuV 27.71 10.04 20.23 10.01 18.52 9.61	9.58 9.58 9.61 9.61 9.60 9.60	ment dBuV 37.29 19.62 29.84 19.62 28.12 19.21	dBuV 65.78 55.78 56.00 46.00 56.00 56.00	dB -28.49 -36.16 -26.16 -26.38 -27.88 -26.79	QP AVG QP AVG QP AVG
1 2 3 * 4 5 6 7	MHz 0.1539 0.1539 0.7300 0.7300 1.4020 1.4020 2.3820	Level dBuV 27.71 10.04 20.23 10.01 18.52 9.61 16.48	9.58 9.58 9.61 9.60 9.60 9.62	ment dBuV 37.29 19.62 29.84 19.62 28.12 19.21 26.10	dBuV 65.78 55.78 56.00 46.00 56.00 46.00 46.00	dB -28.49 -36.16 -26.16 -26.38 -27.88 -26.79 -29.90	QP AVG QP AVG QP AVG
1 2 3 * 4 5 6 7	MHz 0.1539 0.1539 0.7300 0.7300 1.4020 1.4020 2.3820 2.3820	Level dBuV 27.71 10.04 20.23 10.01 18.52 9.61 16.48 3.63	9.58 9.58 9.61 9.60 9.60 9.62 9.62	ment dBuV 37.29 19.62 29.84 19.62 28.12 19.21 26.10 13.25	dBuV 65.78 55.78 56.00 46.00 56.00 46.00 56.00	dB -28.49 -36.16 -26.38 -27.88 -26.79 -29.90 -32.75	QP AVG QP AVG QP AVG QP AVG
1 2 3 * 4 5 6 7 8	MHz 0.1539 0.1539 0.7300 0.7300 1.4020 1.4020 2.3820 2.3820 3.0540	Level dBuV 27.71 10.04 20.23 10.01 18.52 9.61 16.48 3.63 15.22	9.58 9.58 9.61 9.60 9.60 9.62 9.62 9.65	ment dBuV 37.29 19.62 29.84 19.62 28.12 19.21 26.10 13.25 24.87	dBuV 65.78 55.78 56.00 46.00 56.00 46.00 56.00 46.00	dB -28.49 -36.16 -26.38 -27.88 -26.79 -29.90 -32.75 -31.13	QP AVG QP AVG QP AVG QP AVG

*:Maximum data x:Over limit !:over margin

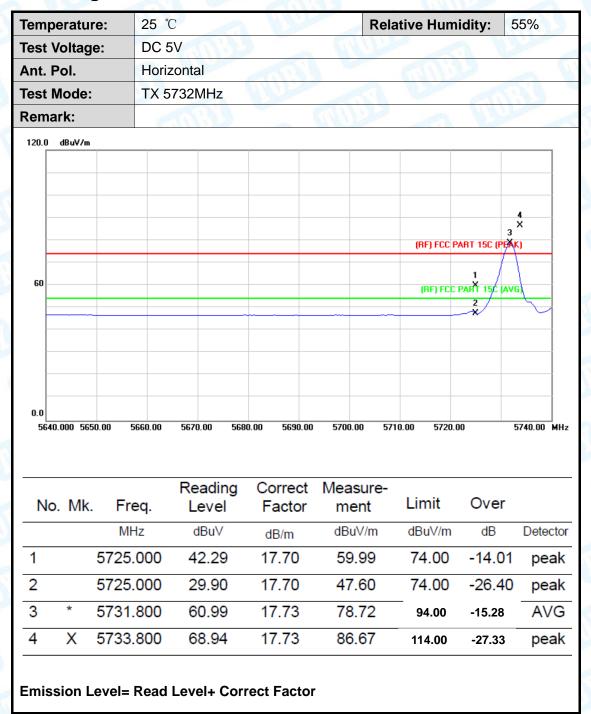




Page: 22 of 38

Attachment B-- Radiated Emission Test Data

Field Strength of the Fundamental

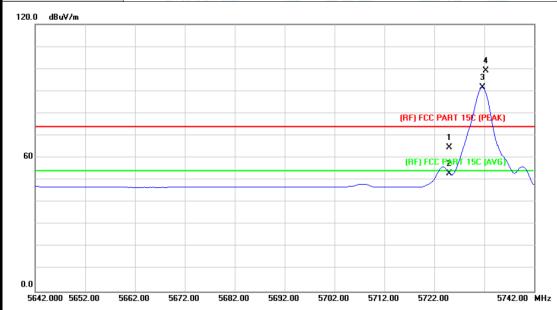






Page: 23 of 38

Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 5V		N. N. Jan
Ant. Pol.	Vertical	ans a	
Test Mode:	TX 5732MHz		
Remark:			N. C.

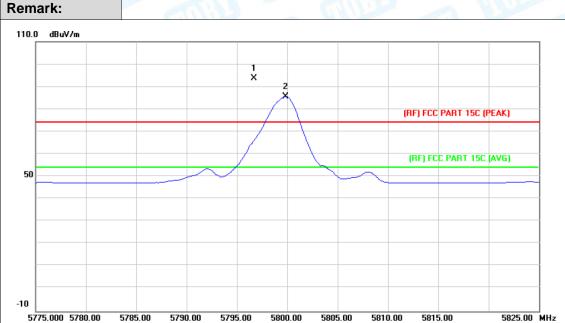


No.	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		5725.000	46.99	17.70	64.69	74.00	-9.31	peak
2		5725.000	35.31	17.70	53.01	54.00	-0.99	AVG
3	*	5731.600	73.92	17.73	91.65	94.00	-2.35	AVG
4	Χ	5732.400	81.30	17.73	99.03	114.00	-14.97	peak



Page: 24 of 38

			E HILL	
Temperature:	25 ℃	R	elative Humidity:	55%
Test Voltage:	DC 5V			N. N. J.
Ant. Pol.	Horizontal			
Test Mode:	TX 5800MHz	WHO I	10	
_		4000		ALMA F



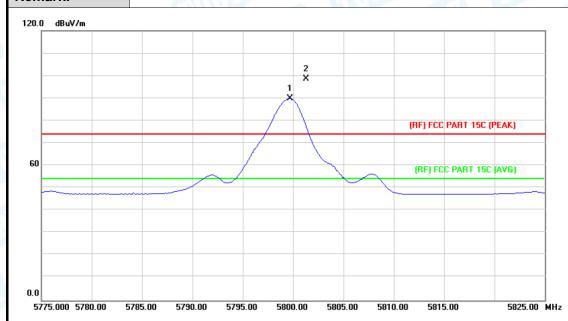
	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		X	5796.700	75.79	17.97	93.76	114.00	-20.24	peak
2		*	5799.800	67.72	17.98	85.70	94.00	-8.3	AVG





Temperature:25 °CRelative Humidity:55%Test Voltage:DC 5VAnt. Pol.VerticalTest Mode:TX 5800MHz

Remark:



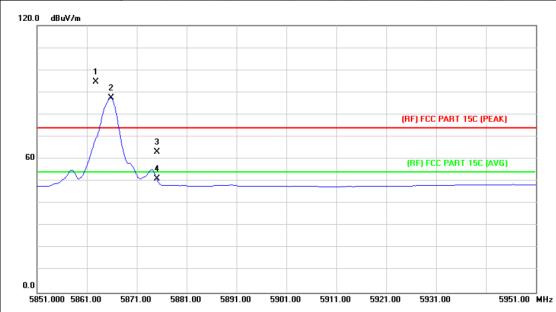
1	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	5799.700	71.97	17.98	89.95	94.00	-4.05	AVG
2		X	5801.300	80.44	17.98	98.42	114.00	-15.58	peak





Page: 26 of 38

Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 5V	CHO.	A Marie
Ant. Pol.	Horizontal	COURT OF THE PARTY	
Test Mode:	TX 5866MHz		
Remark:			



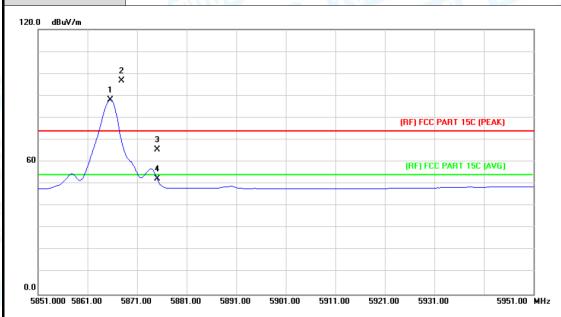
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	5862.800	76.46	18.23	94.69	114.00	-19.31	peak
2	*	5865.800	69.20	18.24	87.44	94.00	-6.56	AVG
3		5875.000	44.94	18.27	63.21	74.00	-10.79	peak
4		5875.000	32.79	18.27	51.06	54.00	-2.94	AVG





Page: 27 of 38

Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 5V	CHILL ST.	R. N. Land
Ant. Pol.	Vertical		
Test Mode:	TX 5866MHz		
Remark:			N. C.



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	5865.600	69.81	18.24	88.05	94.00	-5.95	AVG
2	Χ	5867.800	78.42	18.25	96.67	114.00	-17.33	peak
3		5875.000	47.38	18.27	65.65	74.00	-8.35	peak
4		5875.000	34.10	18.27	52.37	54.00	-1.63	AVG



28 of 38 Page:

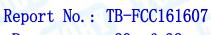
9 KHz to 30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

30MHz-1GHz

Temperature	: 25 °C	C		Relati	ve Humidity	: 55	%			
Test Voltage:	DC 5	5V		Alle						
Ant. Pol.	Horiz	zontal	WUR.		MALL					
Test Mode:	TX N	/lode	P. San							
Remark:		No report for the emission which more than 10 dB below the prescribed limit.								
80.0 dBuV/m										
-20		1 ************************************	2 3		(RF)FCC 15C 3)	Margin -6	dB			
30.000 40	50 60 7	0 80	(MHz)	300	400 500	600 700	1000.00			
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit C	ver				
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detecto			
1 9	4.0979	38.75	-22.02	16.73	43.50 -2	26.77	peak			
2 1	30.8369	46.36	-22.44	23.92	43.50 -	19.58	peak			
3 1	84.4898	42.91	-20.02	22.89	43.50 -2	20.61	peak			
4 3	12.1794	42.35	-15.80	26.55	46.00 -	19.45	peak			
5 4	10.3825	37.60	-12.21	25.39	46.00 -2	20.61	peak			
			-6.70	27.54	46.00 -	18.46	peak			





Page: 29 of 38

Temperature:	25 ℃	R	elative Humidity:	55%
Test Voltage:	DC 5V	100		CILLE
Ant. Pol.	Vertical			Contract of the Contract of th
Test Mode:	TX Mode		CHILL	
Remark:	No report for the emprescribed limit.	nission which mor	re than 10 dB below	the
80.0 dBuV/m				
-20	Z X	A Aller	* 5 * X	6 G
30.000 40 50		(MHz)	300 400 500 600	700 1000.000
No. Mk. Fre	_	orrect Measur actor ment	e- Limit Ove	er
MH	lz dBuV (dB/m dBuV/m	n dBuV/m dB	Detector
1 49.35	594 54.51 -2	23.02 31.49	40.00 -8.5	1 peak
2 130.8	369 54.90 -2	22.44 32.46	43.50 -11.	04 peak
3 184.4	898 53.31 -2	20.02 33.29	43.50 -10.	21 peak
4 312.1	794 47.80 -1	5.80 32.00	46.00 -14.	00 peak
5 543.2	742 39.75 -	9.32 30.43	46.00 -15.	57 peak
6 * 900.1	474 42.90 -	3.60 39.30	46.00 -6.7	'0 peak
Emission Level=	Read Level+ Correc	et Factor		

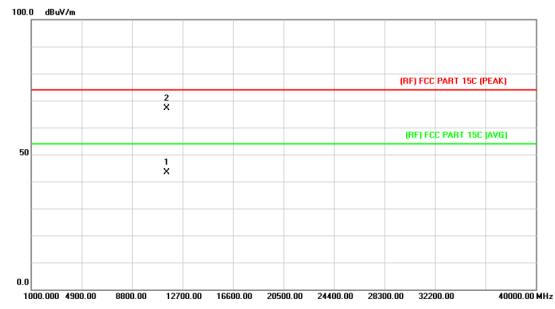




Page: 30 of 38

Radiated Spurious Emission (Above 1 GHz)

Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 5V						
Ant. Pol.	Horizontal						
Test Mode:	Test Mode: TX 5732MHz						
Remark:	No report for the emission which prescribed limit.	h more than 10 dB below	the				

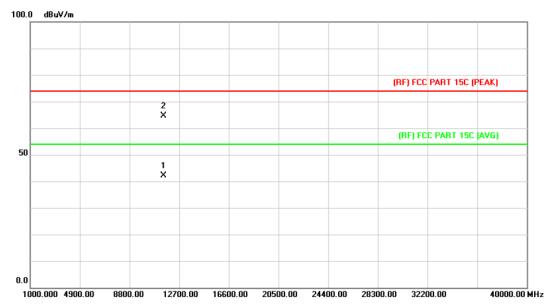


N	0.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1			11459.250	61.97	-18.68	43.29	54.00	-10.71	AVG
2		*	11463.750	85.72	-18.67	67.05	74.00	-6.95	peak

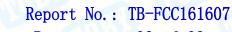


Page: 31 of 38

Temperature:	25 ℃	I The	Relative Humidity:	55%			
Test Voltage:	DC 5V	3	CHILL ST	A William			
Ant. Pol.	Ant. Pol. Vertical						
Test Mode:	TX 5732MHz	MAG					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						



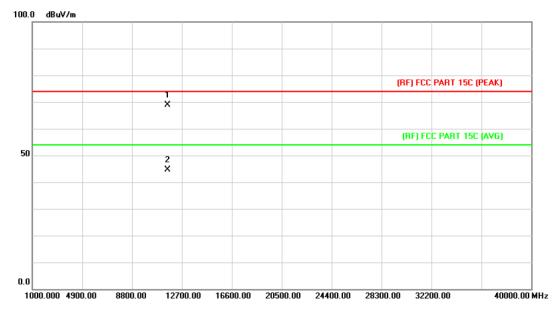
No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		11460.500	60.92	-18.68	42.24	54.00	-11.76	AVG
2	*	11464.250	83.34	-18.67	64.67	74.00	-9.33	peak





Page: 32 of 38

25 ℃	Relative Humidity:	55%
DC 5V	THU PER	H. N. Land
Horizontal	000	
TX 5800MHz	The state of the s	
No report for the emprescribed limit.	nission which more than 10 dB below	the
	DC 5V Horizontal TX 5800MHz No report for the em	DC 5V Horizontal TX 5800MHz No report for the emission which more than 10 dB below



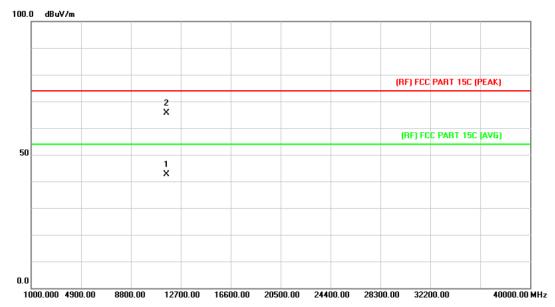
No	. N	۱k.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	1	1600.250	87.55	-18.58	68.97	74.00	-5.03	peak
2		1	1600.350	63.19	-18.58	44.61	54.00	-9.39	AVG





Page: 33 of 38

		COLUMN TO THE PARTY OF THE PART				
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 5V		A KINDS			
Ant. Pol.	Vertical)			
Test Mode:	TX 5800MHz	TO BE				
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					



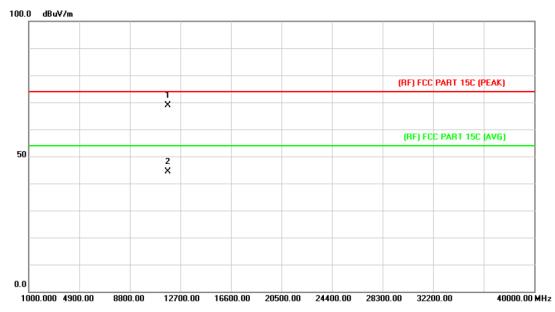
No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		11600.450	61.25	-18.58	42.67	54.00	-11.33	AVG
2	*	11600.500	84.27	-18.58	65.69	74.00	-8.31	peak





Page: 34 of 38

Temperature:	25 ℃	Miller	Relative Humidity:	55%		
Test Voltage:	DC 5V		THE PARTY OF	N. N. San		
Ant. Pol.	Horizontal		anis s			
Test Mode:	TX 5866MHz					
Remark: No report for the emission which more than 10 dB below the prescribed limit.						



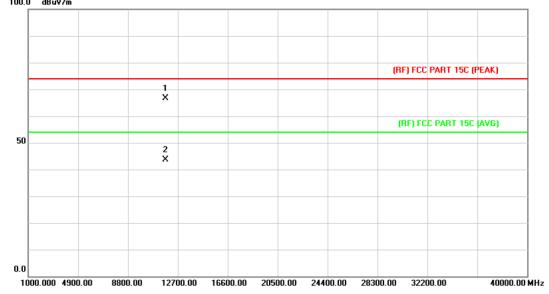
No	٥.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	11732.100	87.46	-18.50	68.96	74.00	-5.04	peak
2			11732.250	62.80	-18.50	44.30	54.00	-9.70	AVG





Page: 35 of 38

Temperature:	25 ℃	3 100	Relative Humidity:	55%			
Test Voltage:	DC 5V	13		A RATE			
Ant. Pol.	Vertical		and a)			
Test Mode:	TX 5866MHz	MAG					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
100.0 dBuV/m							



N	lo.	Mk	. Freq.			Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	11732.150	85.04	-18.50	66.54	74.00	-7.46	peak
2			11732.450	62.17	-18.50	43.67	54.00	-10.33	AVG



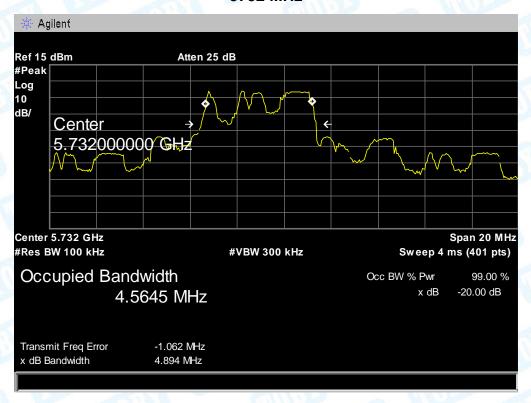


Page: 36 of 38

Attachment C--Bandwidth Data

Low Channel Frequency (MHz)	20dB Bandwidth (MHz)		
5732	4.894		

5732 MHz

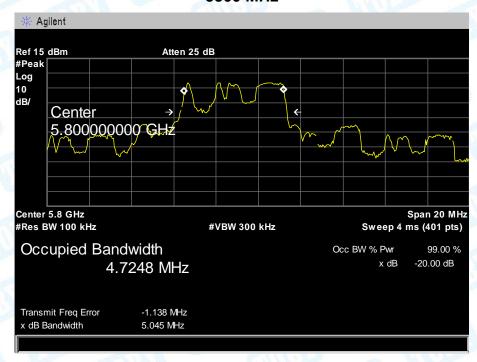


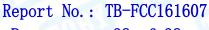


Report No.: TB-FCC161607 Page: 37 of 38

MID Channel Frequency (MHz)	20dB Bandwidth (MHz)	
5800	5.045	

5800 MHz



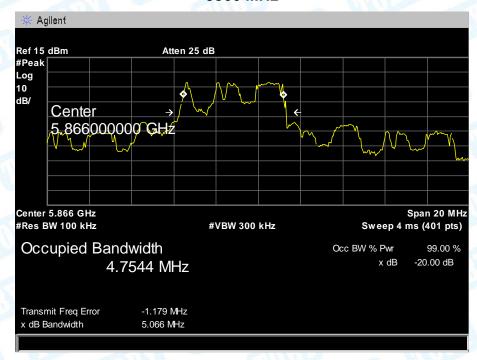




Page: 38 of 38

HIGH Channel Frequency (MHz)	20dB Bandwidth (MHz)
5866	5.066

5866 MHz



----End of Report----