

TEST REPORT				
Report No:	CHTEW21070069	Report Verification:		
Project No	SHT2106110101EW			
FCC ID:	2ASWWTRONIK1			
Applicant's name:	XINCHUANGXIN INTERNA	TIONAL CO.,LTD		
Address	ROOM 605 6/F, FA YUEN C YUEN STREET MONGKOK	COMMERCIAL BUILDING, 75-77 FA		
Test item description:	Smart Phone			
Trade Mark	CORN			
Model/Type reference:	Tronik 1			
Listed Model(s)	TRONIK 1S, TRONIK 1 PRO	D, TRONIK 1 MAX, TRONIK 1L		
Standard:	FCC CFR Title 47 Part 15 S	Subpart C Section 15.247		
Date of receipt of test sample	Jun. 30, 2021			
Date of testing	Jun. 31, 2021- Jul. 12, 2021			
Date of issue	Jul. 13, 2021			
Result	PASS			
Compiled by (Position+Printed name+Signature):	File administrator Silvia Li	Silvia Li		
Supervised by (Position+Printed name+Signature):	Project Engineer Aaron Fan	g Aaron.Fang		
Approved by (Position+Printed name+Signature):	RF Manager Hans Hu	Homsty		
Testing Laboratory Name: Shenzhen Huatongwei International Inspection Co., Ltd.				
Address:	dress 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, 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:

- <u>FCC Rules Part 15.247</u>: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz
- <u>ANSI C63.10:2013</u>: American National Standard for Testing Unlicensed Wireless Devices
- KDB 558074 D01 15.247 Meas Guidance v05r02: Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating under Section 15.247 of The FCC Rules

1.2. Report version

Revision No.	Date of issue	Description
N/A	2021-07-13	Original

2. TEST DESCRIPTION

Report clause	Test Items	Standard Requirement	Result
5.1	Antenna Requirement	15.203/15.247(c)	PASS
5.2	AC Conducted Emission	15.207	PASS
5.3	Peak Output Power	15.247(b)(3)	PASS
5.4	Power Spectral Density	15.247(e)	PASS
5.5	6dB Bandwidth	15.247(a)(2)	PASS
5.6	99% Occupied Bandwidth	-	PASS ^{*1}
5.7	Duty cycle	-	PASS ^{*1}
5.8	Conducted Band Edge and Spurious Emission	15.247(d)/15.205	PASS
5.9	Radiated Band Edge Emission	15.205/15.209	PASS
5.10	Radiated Spurious Emission	15.247(d)/15.205/15.209	PASS

Note:

- The measurement uncertainty is not included in the test result.
- *1: No requirement on standard, only report these test data.

3. SUMMARY

3.1. Client Information

Applicant:	XINCHUANGXIN INTERNATIONAL CO.,LTD	
Address:	ROOM 605 6/F, FA YUEN COMMERCIAL BUILDING, 75-77 FA YUEN STREET MONGKOK KL	
Manufacturer:	Shenzhen Chiteng Technology Co.,LTD	
Address:	Second Floor, Area A, Building 4, Huiye Technology Worksho Guanguang Road, Tangjia Community, Gongming Street, Guangmi New District, Shenzhen, Guangdong	

3.2. Product Description

Name of EUT:	Smart Phone
Trade Mark:	CORN
Model No.:	Tronik 1
Listed Model(s):	TRONIK 1S, TRONIK 1 PRO, TRONIK 1 MAX, TRONIK 1L
Power supply:	DC3.85V
Battery Information:	DC3.85V,4000mAh
Adapter Information:	Model:CS001 Input: AC100-240V, 50/60Hz, 0.15A Output: 5.0Vdc, 1.0A
Hardware version:	E7391D3_MB_V1.0
Software version:	CORN_Tronik_1_S65306A_V01

3.3. Radio Specification Description

Support type ^{*2} :	802.11b, 802.11g, 802.11n(HT20)	
Modulation: DSSS for 802.11b OFDM for 802.11g/802.11n(HT20)		
Operation frequency:	2412MHz~2462MHz for 802.11b/802.11g/802.11n(HT20)	
Channel number:	11 for 802.11b/802.11g/802.11n(HT20)	
Channel separation:	5MHz	
Antenna type:	internal antenna	
Antenna gain:	1.2dBi	

Note:

*2: only show the RF function associated with this report.

3.4. Testing Laboratory Information

Laboratory Name	Shenzhen Huatongwei International Inspection Co., Ltd.		
Laboratory Location	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China		
Connect information:	Phone: 86-755-26715499 E-mail: <u>cs@szhtw.com.cn</u> <u>http://www.szhtw.com.cn</u>		
Qualifications	Туре	Accreditation Number	
Qualifications	FCC	762235	

4. TEST CONFIGURATION

4.1. Test frequency list

According to section 15.31(m), regards to the operating frequency range over 10 MHz, must select three channels which were tested. The Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the below blue front.

802.11b/802.11g/802.11n(HT20)		
Channel Frequency (MHz)		
01	2412	
02	2417	
• :	• :	
06	2437	
• :	• :	
10	2457	
11	2462	

4.2. Descriptions of Test mode

Preliminary tests were performed in different data rates, final test modes are considering the modulation and worse data rates as below table.

Modulation Data rate	
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)	MCS0

4.3. Test mode

For RF test items

The engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions:

The EUT was set to connect with the WLAN AP under large package sizes transmission.

For Radiated spurious emissions test item:

The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data Recorded in the report.

4.4. Support unit used in test configuration and system

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

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

Wheth	Whether support unit is used?				
~	No				
Item	Equipement	Trade Name	Model No.	FCC ID	Power cord
1					
2					

4.5. Testing environmental condition

Туре	Requirement	Actual
Temperature:	15~35°C	25°C
Relative Humidity:	25~75%	50%
Air Pressure:	860~1060mbar	1000mbar

4.6. Measurement uncertainty

Test Item	Measurement Uncertainty
AC Conducted Emission (150kHz~30MHz)	3.02 dB
Radiated Emission (30MHz~1000MHz	4.90 dB
Radiated Emissions (1GHz~25GHz)	4.96 dB
Peak Output Power	0.51 dB
Power Spectral Density	0.51 dB
Conducted Spurious Emission	0.51 dB
6dB Bandwidth	70 Hz

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

4.7. Equipment Used during the Test

•	Conducted Emission											
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)					
•	Shielded Room	Albatross projects	HTWE0114	N/A	N/A	2018/09/28	2023/09/27					
•	EMI Test Receiver	R&S	HTWE0111	ESCI	101247	2020/10/19	2021/10/18					
•	Artificial Mains	SCHWARZBECK	HTWE0113	NNLK 8121	573	2020/10/15	2021/10/14					
•	Pulse Limiter	R&S	HTWE0033	ESH3-Z2	100499	2020/10/15	2021/10/14					
•	RF Connection Cable	HUBER+SUHNER	HTWE0113-02	ENVIROFLE X_142	EF-NM- BNCM-2M	2020/10/15	2021/10/14					
•	Test Software	R&S	N/A	ES-K1	N/A	N/A	N/A					

•	Radiated emission-6th test site											
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)					
•	Semi-Anechoic Chamber	Albatross projects	HTWE0127	SAC-3m-02	C11121	2018/09/30	2021/09/29					
•	EMI Test Receiver	R&S	HTWE0099	ESCI	100900	2020/10/19	2021/10/18					
•	Loop Antenna	R&S	HTWE0170	HFH2-Z2	100020	2021/04/06	2022/04/05					
•	Ultra-Broadband Antenna	SCHWARZBECK	HTWE0123	VULB9163	538	2021/04/06	2022/04/05					
•	Pre-Amplifer	SCHWARZBECK	HTWE0295	BBV 9742	N/A	2020/11/13	2021/11/12					
•	RF Connection Cable	HUBER+SUHNER	HTWE0062-01	N/A	N/A	2021/02/26	2022/02/25					
•	RF Connection Cable	HUBER+SUHNER	HTWE0062-02	SUCOFLEX104	501184/4	2021/02/26	2022/02/25					
•	Test Software	R&S	N/A	ES-K1	N/A	N/A	N/A					

•	Radiated emission-7th test site											
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)					
•	Semi-Anechoic Chamber	Albatross projects	HTWE0122	SAC-3m-01	N/A	2018/09/27	2021/09/26					
•	Spectrum Analyzer	R&S	HTWE0098	FSP40	100597	2020/10/20	2021/10/19					
•	Horn Antenna	SCHWARZBECK	HTWE0126	9120D	1011	2020/04/01	2023/03/31					
•	Broadband Horn Antenna	SCHWARZBECK	HTWE0103	BBHA9170	BBHA9170472	2018/10/11	2021/10/11					
•	Pre-amplifier	CD	HTWE0071	PAP-0102	12004	2020/11/13	2021/11/12					
•	Broadband Pre- amplifier	SCHWARZBECK	HTWE0201	BBV 9718	9718-248	2021/03/05	2022/03/04					
•	RF Connection Cable	HUBER+SUHNER	HTWE0120-01	6m 18GHz S Serisa	N/A	2021/02/26	2022/02/25					
•	RF Connection Cable	HUBER+SUHNER	HTWE0120-02	6m 3GHz RG Serisa	N/A	2021/02/26	2022/02/25					
•	RF Connection Cable	HUBER+SUHNER	HTWE0120-03	6m 3GHz RG Serisa	N/A	2021/02/26	2022/02/25					
•	RF Connection Cable	HUBER+SUHNER	HTWE0120-04	6m 3GHz RG Serisa	N/A	2021/02/26	2022/02/25					
•	RF Connection Cable	HUBER+SUHNER	HTWE0121-01	6m 18GHz S Serisa	N/A	2021/02/26	2022/02/25					
•	Test Software	Audix	N/A	E3	N/A	N/A	N/A					

•	RF Conducted Method									
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)				
•	Signal and spectrum Analyzer	R&S	FSV40	100048	2020/10/19	2021/10/18				
•	Spectrum Analyzer	Agilent	N9020A	MY50510187	2020/10/19	2021/10/18				
•	Power Meter	Anritsu	ML249A	N/A	2020/10/19	2021/10/18				
0	Radio communication tester	R&S	CMW500	137688-Lv	2020/10/19	2021/10/18				

5. TEST CONDITIONS AND RESULTS

5.1. Antenna Requirement

<u>Requirement</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responseble 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, 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.

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

TEST RESULT

☑ Passed □ Not Applicable

The antenna type is a internal antenna, the directional gain of the antenna less than 6 dBi, please refer to the below antenna photo.



5.2. AC Conducted Emission

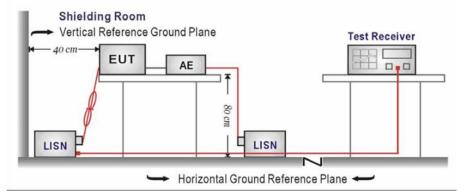
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.207

	Limit (dBuV)				
Frequency range (MHz)	Quasi-peak	Average			
0.15-0.5	66 to 56*	56 to 46*			
0.5-5	56	46			
5-30	60	50			

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION



TEST PROCEDURE

- 1. The EUT was setup according to ANSI C63.10 requirements.
- The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
- The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment.
- 4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
- 5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
- 6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- 7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
- 8. During the above scans, the emissions were maximized by cable manipulation.

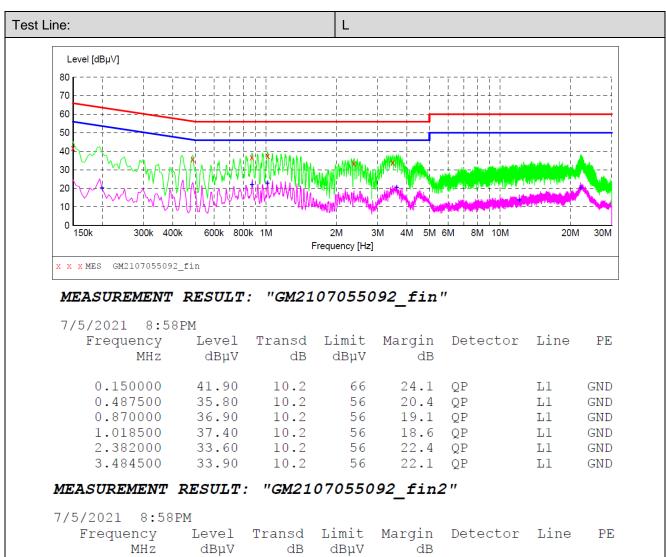
TEST MODE:

Please refer to the clause 4.2

TEST RESULT

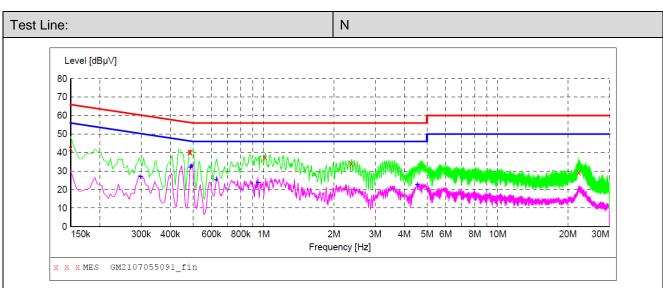
☑ Passed □ Not Applicable

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MHZ	αΒμν	аB	αΒμν	dB				
0.199500 0.870000 1.014000 3.615000 12.079500	20.20 21.90 22.80 20.50 13.60	10.2 10.2 10.2 10.2 10.5	54 46 46 50		AV AV AV AV	L1 L1 L1 L1 L1	GND GND GND GND GND	
22.128000	20.30	10.5	50	29.7	AV	L1	GND	

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MEASUREMENT RESULT: "GM2107055091_fin"

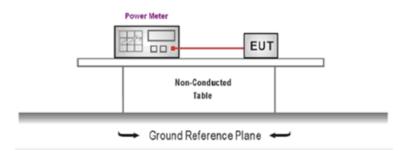
7/5/2021	8:55PM							
Freque	ency :	Level T	ransd	Limit 1	Margin	Detector	Line	PE
	MHz	dBµV	dB	dBµV	dB			
0.150		42.40	10.2	66	23.6	QP	Ν	GND
0.483	3000	40.20	10.2	56	16.1	QP	Ν	GND
0.487	7500	40.30	10.2	56	15.9	QP	Ν	GND
1.014	1000 :	37.60	10.2	56	18.4	QP	Ν	GND
2.377	7500	33.90	10.2	56	22.1	QP	Ν	GND
22.263	3000	29.30	10.5	60	30.7	QP	Ν	GND
MEASURE	MENT R	SULT:	"GM210	705509	1 fin2	"		
			0112 2 0	,00000				
			0112 2 0	,00000				
7/5/2021	8:55PM				-		Line	PE
	8:55PM				-	Detector	Line	PE
7/5/2021	8:55PM ency 1	Level T	ransd	Limit I	— Margin		Line	PE
7/5/2021	8:55PM ency MHz	Level T	ransd	Limit I	Margin dB		Line N	PE GND
7/5/2021 Freque	8:55PM ency MHz 3500	Level T dBµV	ransd dB	Limit I dBµV	- dB 23.4	Detector		
7/5/2021 Freque 0.298	8:55PM ency 1 MHz 3500 2 7500 3	Level T dBµV 26.90	ransd dB 10.2	Limit I dBµV 50	Margin dB 23.4	Detector AV	N	GND
7/5/2021 Freque 0.298 0.487	8:55PM ency 7 MHz 3500 2 7500 3	Level T dBµV 26.90 32.00	ransd dB 10.2 10.2	Limit I dBµV 50 46		Detector AV AV	N N	GND GND
7/5/2021 Freque 0.298 0.487 0.492	8:55PM ency 1 MHz 3500 2 7500 2 2000 2 7000 2	Level T dBµV 26.90 32.00 32.80	ransd dB 10.2 10.2 10.2	Limit I dBµV 50 46 46	Margin dB 23.4 14.2 13.3 20.9	Detector AV AV AV	N N N	GND GND GND
7/5/2021 Freque 0.298 0.487 0.492 0.627	8:55PM ency 2 MHz 3500 2 7500 2 2000 2 5500 2	Level T dBµV 26.90 32.00 32.80 25.10	ransd dB 10.2 10.2 10.2 10.2 10.2	Limit I dBµV 50 46 46 46 46	Margin dB 23.4 14.2 13.3 20.9 22.2	Detector AV AV AV AV	N N N	GND GND GND GND

5.3. Peak Output Power

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3): 30dBm

TEST CONFIGURATION



TEST PROCEDURE

- 1. The EUT was tested according to ANSI C63.10 and KDB 558074 D01 requirements.
- 2. The maximum peak conducted output power may be measured using a broadband peak RF power meter.
- 3. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.
- 4. Record the measurement data.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☑ Passed □ Not Applicable

TEST Data

Please refer to appendix A on the appendix report

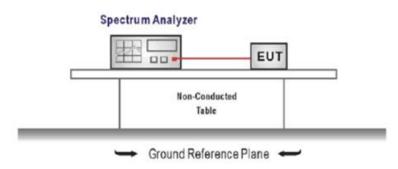
5.4. Power Spectral Density

<u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e):

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

TEST CONFIGURATION



TEST PROCEDURE

- 1. Connect the antenna port(s) to the spectrum analyzer input,
- Configure the spectrum analyzer as shown below: Center frequency=DTS channel center frequency Span =1.5 times the DTS bandwidth RBW = 3 kHz ≤ RBW ≤ 100 kHz, VBW ≥ 3 × RBW Sweep time = auto couple Detector = peak Trace mode = max hold
- 3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter wave form on the spectrum analyzer.
- 4. Use the peak marker function to determine the maximum amplitude level within the RBW.
- 5. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☑ Passed □ Not Applicable

TEST Data

Please refer to appendix B on the appendix report

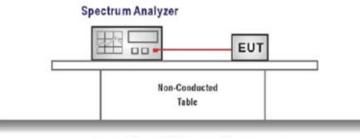
5.5. 6dB bandwidth

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(2):

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

TEST CONFIGURATION



➡ Ground Reference Plane

TEST PROCEDURE

- 1. Connect the antenna port(s) to the spectrum analyzer input.
- 2. Configure the spectrum analyzer as shown below (enter all losses between the transmitter output and the spectrum analyzer).

Center Frequency =DTS channel center frequency

Span=2 x DTS bandwidth

RBW = 100 kHz, VBW \ge 3 × RBW

Sweep time= auto couple

Detector = Peak

Trace mode = max hold

- 3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter waveform on the spectrum analyzer.
- 4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission, and record the pertinent measurements.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

🛛 Passed 🛛 🗌 Not

Not Applicable

TEST Data

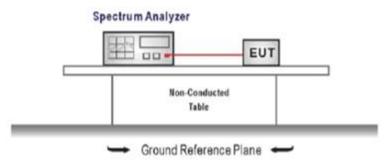
Please refer to appendix C on the appendix report

5.6. 99% Occupied Bandwidth

<u>LIMIT</u>

N/A

TEST CONFIGURATION



TEST PROCEDURE

- 1. Connect the antenna port(s) to the spectrum analyzer input.
- 2. Configure the spectrum analyzer as shown below (enter all losses between the transmitter output and the spectrum analyzer).

Center Frequency =channel center frequency Span≥1.5 x OBW RBW = 1%~5%OBW VBW ≥ 3 × RBW Sweep time= auto couple Detector = Peak Trace mode = max hold

3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter waveform on the spectrum analyzer.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☑ Passed □ Not Applicable

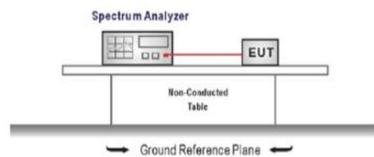
TEST Data

Please refer to appendix D on the appendix report

5.7. Duty Cycle

N/A

TEST CONFIGURATION



TEST PROCEDURE

- 1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
- 2. Set to the maximum power setting and enable the EUT transmit continuously
- Use the following spectrum analyzer settings: Span=zero span, Frequency=centered channel, RBW= 1 MHz, VBW ≥ RBW Sweep=as necessary to capture the entire dwell time,

Detector function = peak, Trigger mode

4. Measure and record the duty cycle data

TEST MODE:

Please refer to the clause 4.2

TEST Data

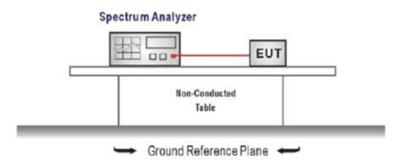
Please refer to appendix E on the appendix report

5.8. Conducted Band edge and Spurious Emission

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section15.247 (d):In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

TEST CONFIGURATION



TEST PROCEDURE

- 1. Connect the antenna port(s) to the spectrum analyzer input.
- Establish a reference level by using the following procedure Center frequency=DTS channel center frequency The span = 1.5 times the DTS bandwidth. RBW = 100 kHz, VBW ≥ 3 x RBW Detector = peak, Sweep time = auto couple, Trace mode = max hold
 - Allow trace to fully stabilize

Use the peak marker function to determine the maximum PSD level

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

3. Emission level measurement

Set the center frequency and span to encompass frequency range to be measured

RBW = 100 kHz, VBW \ge 3 x RBW

Detector = peak, Sweep time = auto couple, Trace mode = max hold

Allow trace to fully stabilize

Use the peak marker function to determine the maximum amplitude level.

- 4. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter waveform on the spectrum analyzer.
- Ensure that the amplitude of all unwanted emission outside of the authorized frequency band excluding restricted frequency bands) are attenuated by at least the minimum requirements specified (at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz). Report the three highest emission relative to the limit.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☑ Passed □ Not Applicable

TEST Data

Please refer to appendix F on the appendix report

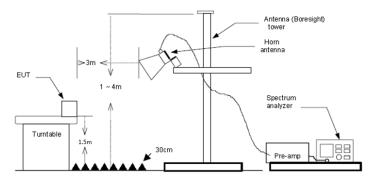
5.9. Radiated Band edge Emission

<u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d):

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, Radiated Emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the Radiated Emissions limits specified in §15.209(a) (see §15.205(c)).

TEST CONFIGURATION



TEST PROCEDURE

- 1. The EUT was setup and tested according to ANSI C63.10.
- 2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT waspositioned such that the distance from antenna to the EUT was 3 meters.
- 4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find themaximum emission, all of the interface cables were manipulated according to ANSI C63.10 on radiated measurement.
- 5. Use the following spectrum analyzer settings:
 - a) Span shall wide enough to fully capture the emission being measured
 - b) Set RBW=100kHz for <1GHz, VBW=3*RBW, Sweep time=auto, Detector=peak, Trace=max hold
 - c) Set RBW=1MHz, VBW=3MHz for >1GHz, Sweep time=auto, Detector=peak, Trace=max hold for Peak measurement

For average measurement:

- VBW=10Hz, When duty cycle is no less than 98 percent
- VBW≥1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation, so refer to this clasue 5.6 duty cycle.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☑ Passed □ Not Applicable

Note:

- 1) Level= Reading + Factor; Factor = Antenna Factor+ Cable Loss- Preamp Factor
- 2) Over Limit = Level- Limit
- 3) Average measurement was not performed if peak level is lower than average limit(54 dBuV/m).

Туре	802.11b	Test	channel	CH01	Polarity	Horizontal
-	Mark Frequency MHz	Reading Ante	nna Cable F dB			ver Remark mit
	1 2310.00 2 2390.01	32.77 27.9 35.84 27.7			0.47 74.00 -23. 3.83 74.00 -20.	
	Mark Frequency MHz	Reading Anter dBuV/m dB			vel Limit Over uV/m dBuV/m limi	
	1 2310.00 2 2390.01	25.25 27.96 29.41 27.72			42.95 54.00 -11.05 47.40 54.00 -6.60	
Туре	802.11b	Test	channel	CH01	Polarity	Vertical
-	Mark Frequency MHz	Reading Anter dBuV/m dB			evel Limit Ove BuV/m dBuV/m lir	
	1 2310.00 2 2390.01	32.71 27.96 38.26 27.72			.41 74.00 -23.9 .25 74.00 -17.7	
-	Mark Frequency MHz	Reading Anter dBuV/m dB			vel Limit Over uV/m dBuV/m limi	
	1 2310.00 2 2390.01	26.41 27.96 31.24 27.72			44.11 54.00 -9.89 49.23 54.00 -4.77	

Туре		802.11b		Test cha	annel	CH	11	Po	olarity		Horizontal	
	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Aux dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
	_	2483.49 2500.00	27.24 24.89	27.43 27.40	7.80 7.81	37.26 37.26	20.00 20.00		54.00 54.00	-8.79 -11.16		
	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Aux dB	Level dBuV/m	Limit dBuV/m	Ove lim		
	_	2483.49 2500.00	32.83 32.66	27.43 27.40	7.80 7.81	37.26 37.26	20.00 20.00	50.80 50.61	74.00 74.00	-23.2 -23.3		
Туре		802.11b		Test cha	annel	CH	11	Po	olarity		Vertical	
	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Aux dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
	_	2483.49 2500.00	29.15			37.26	20.00 20.00	47.12	54.00		Average	
	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Aux dB	Level dBuV/m	Limit dBuV/m	Over lim:		
	_	2483.49 2500.00	34.68 32.96	27.43 27.40	7.80 7.81	37.26 37.26	20.00 20.00	52.65 50.91	74.00 74.00			

Туре	802.11g	Test ch	annel CH	101	Polarity	Horizontal
		Reading Antenna dBuV/m dB	Cable Pream dB dB	p Aux Levo dB dBu		
		32.26 27.96 38.92 27.72	7.30 37.56 7.72 37.45	20.00 49.9 20.00 56.9		
-	MHz	Reading Antenna dBuV/m dB	dB dB .	dB dBuV/	m dBuV/m limit	
		21.18 27.96 23.05 27.72	7.30 37.56 7.72 37.45		.88 54.00 -15.12 .04 54.00 -12.96	•
Туре	802.11g	Test ch	annel CH	101	Polarity	Vertical
		Reading Antenna dBuV/m dB	Cable Pream dB dB	ip Aux Lev dB dBu'		
	1 2310.00	32.78 27.96 42.79 27.72	7.30 37.56 7.72 37.45	20.00 50.4 20.00 60.7	8 74.00 -23.	
-		Reading Antenna dBuV/m dB	Cable Pream dB dB	o Aux Leve dB dBuV		
		21.26 27.96 24.34 27.72	7.30 37.56 7.72 37.45		8.96 54.00 -15.04 2.33 54.00 -11.67	

Туре		802.11	g	Test ch	annel	Cł	H11		Polarity	Horizontal
	Mark	Frequency MHz		Antenna dB	Cable dB	Preamp dB	Aux dB	Level dBuV/m	Limit Over dBuV/m limit	Remark
		2483.49 2500.00			7.80 7.81	37.26 37.26	20.00 20.00		3 54.00 -11.87 8 54.00 -15.62	
-	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	e Pream dB	ip Aux dB	Level dBuV/r		
	1 2	2483.49 2500.00	41.38 32.65	27.43 27.40	7.80 7.81	37.26 37.26	20.00 20.00	59.35 50.60	74.00 -14.65 74.00 -23.40	
Туре		802.11	g	Test ch	annel	CH	H11		Polarity	Vertical
	Mark	Frequency MHz		Antenna dB	Cable dB	Preamp dB	Aux dB	Level dBuV/m	Limit Over dBuV/m limit	Remark
		2483.49 2500.00	25.87	27.43	7.80	37.26 37.26	20.00 20.00	43.8	4 54.00 -10.16 3 54.00 -14.67	Average Average
	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cabl dB	e Pream dB	np Aux dB	Level dBuV/		
	1 2	2483.49 2500.00	43.44 32.03	27.43 27.40	7.80 7.81		20.00 20.00		74.00 -12.5 74.00 -24.0	

Туре		802.11n(ł	HT20)	Test o	channe	1 (CH01	F	Polarity	Horizontal
-	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Pream dB	ıp Aux dB	Level dBuV/m	Limit Over dBuV/m limi	
_		2310.00 2390.01		27.96 27.72	7.30 7.72	37.56 37.45	20.00 20.00	49.97 55.35	74.00 -24.03 74.00 -18.65	
	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Pream dB	p Aux dB	Level dBuV/m	Limit Over dBuV/m limit	Remark
	_	2310.00 2390.01		27.96 27.72		37.56 37.45	20.00 20.00		2 54.00 -15.38 6 54.00 -12.74	Average Average
Туре		802.11n(l		Toot	- I		01104		Delevite.	N/ 0 1
		002.111(1	1120)	Test	channe		CH01	1	Polarity	Vertical
	Mark	Frequency MHz	,	Antenna dB	Cable dB			Level dBuV/n	Limit Ove	er Remark
	1 2	Frequency MHz 310.00	Reading dBuV/m 33.04	Antenna	Cable dB 7.30	Prear	np Aux	Level	Limit Ove	er Remark nit 26 Peak
	1 2: 2 2: Mark	Frequency MHz 310.00	Reading dBuV/m 33.04 40.90 Reading dBuV/m	Antenna dB 27.96	Cable dB 7.30 7.72 Cable dB	Prear dB 37.56	np Aux dB 20.00 20.00	Level dBuV/n 50.74 58.89 Level dBuV/m	Limit Ove n dBuV/m lin 74.00 -23.2	er Remark nit 26 Peak L1 Peak Remark

Туре		802.11n(HT20)	Test	channe	l C	CH11	F	olarity		Horizontal	
	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Pream dB	p Aux dB	Level dBuV/m	Limit dBuV/r			
	1 2	2483.49 2500.00	40.32 32.36	27.43 27.40	7.80 7.81	37.26 37.26	20.00 20.00	58.29 50.31	74.00 74.00	-15.71		
	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Aux dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
	1 2	2483.49 2500.00	24.76 20.53	27.43 27.40		37.26 37.26	20.00 20.00		54.00 54.00	-11.27 -15.52	Average Average	
Туре		802.11n(HT20)	Test	channe	l C	CH11	F	olarity		Vertical	
	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Pream dB	ıp Aux dB	Level dBuV/m	Limit dBuV/			
	_	2483.49 2500.00	42.17 35.15	27.43 27.40	7.80 7.81	37.26 37.26	20.00 20.00	60.14 53.10	74.00 74.00	-13.8		
	Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Aux dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
	-	2483.49 2500.00		27.43 27.40		37.26 37.26	20.00 20.00		54.00 54.00	-9.67 -15.22	Average Average	

5.10. Radiated Spurious Emission

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

Frequency	Limit (dBuV/m)	Value
0.009 MHz ~0.49 MHz	2400/F(kHz) @300m	Quasi-peak
0.49 MHz ~ 1.705 MHz	24000/F(kHz) @30m	Quasi-peak
1.705 MHz ~30 MHz	30 @30m	Quasi-peak

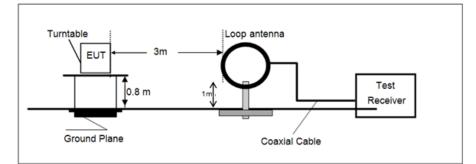
Note: Limit dBuV/m @3m = Limit dBuV/m @300m + 40*log(300/3)= Limit dBuV/m @300m +80,

Limit dBuV/m @3m = Limit dBuV/m @30m +40*log(30/3)= Limit dBuV/m @30m + 40.

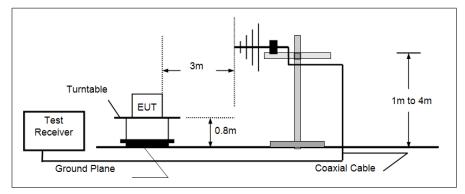
Frequency	Limit (dBuV/m @3m)	Value
30MHz~88MHz	40.00	Quasi-peak
88MHz~216MHz	43.50	Quasi-peak
216MHz~960MHz	46.00	Quasi-peak
960MHz~1GHz	54.00	Quasi-peak
	54.00	Average
Above 1GHz	74.00	Peak

TEST CONFIGURATION

➢ 9 kHz ~ 30 MHz

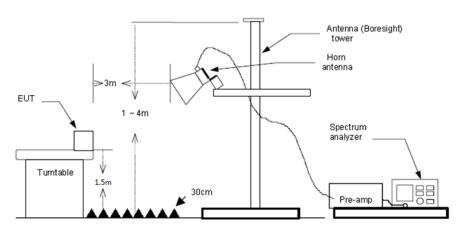


> 30 MHz ~ 1 GHz



> Above 1 GHz

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TEST PROCEDURE

- 1. The EUT was setup and tested according to ANSI C63.10 .
- The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
- 4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
- 5. Set to the maximum power setting and enable the EUT transmit continuously.
- 6. Use the following spectrum analyzer settings
 - a) Span shall wide enough to fully capture the emission being measured;
 - b) Below 1 GHz:
 - RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;

If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

c) Set RBW=1MHz, VBW=3MHz for >1GHz, Sweep time=auto, Detector=peak, Trace=max hold for Peak measurement

For average measurement:

- VBW=10Hz, When duty cycle is no less than 98 percent
- − VBW≥1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation, so refer to this clasue 5.6 duty cycle.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☑ Passed □ Not Applicable

Note:

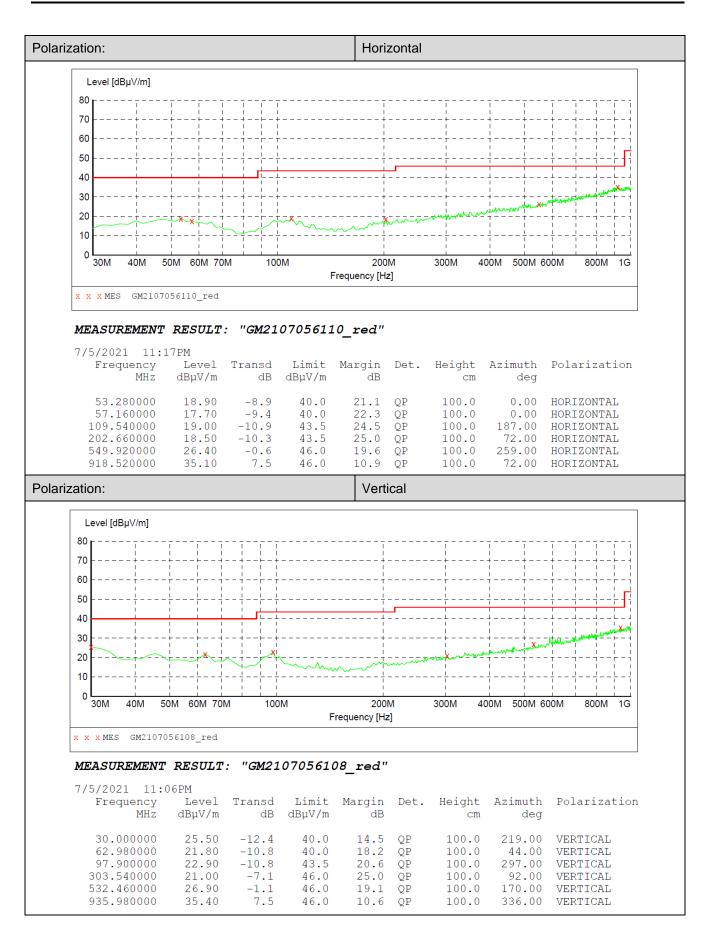
- 1) Level= Reading + Factor/Transd; Factor/Transd = Antenna Factor+ Cable Loss- Preamp Factor
- 2) Over Limit = Level- Limit
- Average measurement was not performed if peak level is lower than average limit(54 dBuV/m) for above 1GHz.

<u> TEST DATA FOR 9 kHz ~ 30 MHz</u>

The EUT was pre-scanned this frequency band, found the radiated level 20dB lower than the limit, so don't show data on this report.

TEST DATA FOR 30 MHz ~ 1000 MHz

Have pre-scan all test channel, found CH06 of 802.11B which it was worst case, so only show the worst case's data on this report.



Shenzhen Huatongwei International Inspection Co., Ltd.

Туре			802.11	b	Test cl	hannel		CH0	1		Pola	arity		Horizontal	
	Mark		MHz	Reading dBuV/m	dB	dB	dB	3	dB	Level dBuV/	m d	.imit dBuV/m	Over limit	Remark	
	1		0.36	32.84	26.30	5.48	36.4		0.00	28.20			-45.80	Peak	
	2		2.11	31.83	29.40		37.0		0.00	34.08			-39.92	Peak	
	3 4		2.06	38.39 29.82	31.40 37.10	11.52 14.29			0.00 0.00	46.07 47.90			-27.93 -26.10	Peak Peak	
	-	000	2.00	25.02	57.10	14.25	55.5	<u> </u>	0.00	47.50		4.00	20.10	TCUK	
Туре			802.11	b	Test cl	nannel		CH0	1		Pola	arity		Vertical	
		1	equency /Hz	dBuV/m	dB	dB	dB		Aux dB	Level dBuV/r		.imit BuV/m	Over limit	Remark	
			3.34		25.97		36.3		0.00	29.81			-44.19	Peak	
	2	3579			29.36		36.8		0.00	34.91			-39.09	Peak	
		4821				11.52				46.27			-27.73	Peak	
	4	8002	2.06	30.34	37.10	14.29	33.3	1	0.00	48.42		4.00	-25.58	Peak	
Туре			802.11	b	Test cl	nannel		CH0	6		Pola	arity		Horizontal	
	Mark			Reading						Leve		Limit	Over		
	1		MHz 6.61	dBuV/m 34.12	dB 25.97	dB 5.38	di 36.		dB 0.00	dBuV, 29.12		dBuV/m 74.00	1 limi -44.88		
	2		7.26	32.34	29.40	10.08	36.9		0.00	34.86		74.00	-39.14		
	3		1.10	36.74	31.40	11.51	35.		0.00	44.49		74.00	-29.51		
	4		8.19	31.30	38.33		36.		0.00			74.00	-25.22		
Туре			802.11	b	Test cl	nannel		CH0	6		Pola	arity		Vertical	
Туре														Vertical	
Туре			equency MHz	Reading dBuV/m	Antenna dB	Cable dB	e Pr d	eamp IB	Aux dB	Leve dBuV	1 //m	Limit dBuV/r	m lim:	r Remark it	
Туре	1	150	equency MHz 2.73	Reading dBuV/m 34.34	Antenna dB 25.88	Cable dB 5.78	Pr d 36.	eamp IB 82	Aux dB 0.00	dBuV 29.18	1 //m	Limit dBuV/r 74.00	m lim: -44.82	r Remark it 2 Peak	
Туре	1 2	150 382	equency MHz 2.73 4.76	Reading dBuV/m 34.34 32.31	Antenna dB 25.88 29.70	Cable dB 5.78 9.87	Pr d 36. 36.	eamp IB 82 97	Aux dB 0.00 0.00	dBuV 29.18 34.91	:1 //m	Limit dBuV/r 74.00 74.00	m lim: -44.82 -39.09	r Remark it 2 Peak 9 Peak	
Туре	1 2 3	150 382 487	equency MHz 2.73 4.76 1.10	Reading dBuV/m 34.34 32.31 33.89	Antenna dB 25.88 29.70 31.40	Cable dB 5.78 9.87 11.51	Pr d 36. 36. 35.	eamp IB 82 97 16	Aux dB 0.00 0.00 0.00	dBuV 29.18 34.91 41.64	1 //m	Limit dBuV/r 74.00 74.00 74.00	m lim: -44.82 -39.09 -32.30	r Remark it 2 Peak 9 Peak 6 Peak	
Туре	1 2	150 382 487	equency MHz 2.73 4.76	Reading dBuV/m 34.34 32.31	Antenna dB 25.88 29.70	Cable dB 5.78 9.87	Pr d 36. 36. 35. 34.	eamp 18 82 97 16 75	Aux dB 0.00 0.00 0.00 0.00	dBuV 29.18 34.91 41.64	1 //m	Limit dBuV/r 74.00 74.00	m lim: -44.82 -39.09 -32.30	r Remark it 2 Peak 9 Peak 6 Peak	
Туре	1 2 3	150 382 487	equency MHz 2.73 4.76 1.10	Reading dBuV/m 34.34 32.31 33.89 29.76	Antenna dB 25.88 29.70 31.40	Cable dB 5.78 9.87 11.51 15.33	Pr d 36. 36. 35. 34.	eamp IB 82 97 16	Aux dB 0.00 0.00 0.00 0.00	dBuV 29.18 34.91 41.64	1 //m	Limit dBuV/r 74.00 74.00 74.00 74.00	m lim: -44.82 -39.09 -32.30	r Remark it 2 Peak 9 Peak 6 Peak	
	1 2 3 4	150 382 487 872	equency MHz 2.73 4.76 1.10 5.48 802.11	Reading dBuV/m 34.34 32.31 33.89 29.76 b	Antenna dB 25.88 29.70 31.40 37.70 Test cl	Cable dB 5.78 9.87 11.51 15.33 hannel	Pr d 36. 35. 34.	eamp 18 82 97 16 75 CH1	Aux dB 0.00 0.00 0.00 0.00	dBuV 29.18 34.91 41.64 48.04	1 //m Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 arity	m lim: -44.82 -39.09 -32.30 -25.90	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal	
	1 2 3 4	150 382 487 872	equency MHz 2.73 4.76 1.10 5.48 802.11 equency	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading	Antenna dB 25.88 29.70 31.40 37.70 Test cl Antenna	Cable dB 5.78 9.87 11.51 15.33 hannel Cable	Pr d 36. 36. 35. 34. Pre	eamp 82 97 16 75 CH1 eamp	Aux dB 0.00 0.00 0.00 0.00 1 Aux	dBuV 29.18 34.91 41.64 48.04	1 //m Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 arity Limit	m lim: -44.82 -39.09 -32.30 -25.90	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark	
	1 2 3 4	150 382 487 872	equency MHz 2.73 4.76 1.10 5.48 802.11	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading dBuV/m	Antenna dB 25.88 29.70 31.40 37.70 Test cl	Cable dB 5.78 9.87 11.51 15.33 hannel	Pr d 36. 35. 34.	eamp 82 97 16 75 CH1 8 eamp 8	Aux dB 0.00 0.00 0.00 0.00	dBuV 29.18 34.91 41.64 48.04	1 //m Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 arity	m lim: -44.82 -39.09 -32.30 -25.90	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark t	
	1 2 3 4 Mark	150 382 487 872 Fro	equency MHz 2.73 4.76 1.10 5.48 802.11 equency MHz	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading	Antenna dB 25.88 29.70 31.40 37.70 Test cl Antenna dB	Cable dB 5.78 9.87 11.51 15.33 nannel Cable dB 5.22	Pr 36. 36. 35. 34. Pre de	eamp 82 97 16 75 CH1 8 55	Aux dB 0.00 0.00 0.00 0.00 1 Aux dB	dBuV 29.18 34.91 41.64 48.04 Level dBuV/	Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 74.00 arity Limit dBuV/m	m lim: -44.82 -39.09 -32.30 -25.90 Over limi	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark t Peak	
	1 2 3 4 Mark	150 382 487 872 Fro 123 381	equency MHz 2.73 4.76 1.10 5.48 802.11 equency MHz 8.41	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading dBuV/m 34.87	Antenna dB 25.88 29.70 31.40 37.70 Test cl Antenna dB 25.83 29.66	Cable dB 5.78 9.87 11.51 15.33 nannel Cable dB 5.22	Pr 36. 35. 34. Pre 36. 37.0	eamp 82 97 16 75 CH1 8 8 55 30	Aux dB 0.00 0.00 0.00 1 Aux dB 0.00 0.00	dBuV 29.18 34.91 41.64 48.04 Level dBuV/ 29.37	Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 arity Limit dBuV/m 74.00 74.00	m lim: -44.8; -39.09 -32.30 -25.90 Over limi -44.63 -38.91	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark t Peak Peak	
	1 2 3 4 Mark 1 2	150 382 487 872 Fre 123 381 492	equency MHz 2.73 4.76 1.10 5.48 802.11 equency MHz 8.41 5.03	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading dBuV/m 34.87 32.57	Antenna dB 25.88 29.70 31.40 37.70 Test cl Antenna dB 25.83 29.66	Cable dB 5.78 9.87 11.51 15.33 nannel Cable dB 5.22 9.86	Pre 36. 35. 34. Pre dE 36.9 37.0 35.2	eamp 82 97 16 75 CH1 eamp 8 55 30 21	Aux dB 0.00 0.00 0.00 0.00 1 Aux dB 0.00 0.00 0.00	dBuV 29.18 34.91 41.64 48.04 Level dBuV/ 29.37 35.09	Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 arity Limit dBuV/m 74.00 74.00	m lim: -44.82 -39.09 -32.30 -25.90 -25.90 	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark t Peak Peak Peak Peak	
	1 2 3 4 	150 382 487 872 Fre 123 381 492	equency MHz 2.73 4.76 1.10 5.48 802.11 equency MHz 8.41 5.03 0.96	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading dBuV/m 34.87 32.57 33.13 30.76	Antenna dB 25.88 29.70 31.40 37.70 Test cl Antenna dB 25.83 29.66 31.44	Cable dB 5.78 9.87 11.51 15.33 hannel Cable dB 5.22 9.86 11.51 14.28	Pre 36. 35. 34. Pre dE 36.9 37.0 35.2	eamp 82 97 16 75 CH1 eamp 8 55 30 21	Aux dB 0.00 0.00 0.00 1 Aux dB 0.00 0.00 0.00 0.00	dBuV 29.18 34.91 41.64 48.04 Level dBuV/ 29.37 35.09 40.87	1 //m Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 arity Limit dBuV/m 74.00 74.00 74.00	m lim: -44.82 -39.09 -32.30 -25.90 Over limi -44.63 -38.91 -33.13	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark t Peak Peak Peak Peak	
Туре	1 2 3 4 Mark 1 2 3 4	150 382 487 872 Fro 123 381 492 804	equency MHz 2.73 4.76 1.10 5.48 802.11 equency MHz 8.41 5.03 0.96 2.90 802.11	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading dBuV/m 34.87 32.57 33.13 30.76 b	Antenna dB 25.88 29.70 31.40 37.70 Test cl Antenna dB 25.83 29.66 31.44 37.19 Test cl	Cable dB 5.78 9.87 11.51 15.33 nannel Cable dB 5.22 9.86 11.51 14.28 nannel	Pr d 36. 35. 34. Pre dE 36. 37. 33. 33.	eamp B 82 97 16 75 CH1 55 20 21 31 CH1	Aux dB 0.00 0.00 0.00 1 Aux dB 0.00 0.00 0.00 0.00 1	dBuV 29.18 34.91 41.64 48.04 Level dBuV/ 29.37 35.09 40.87 48.92	Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00	m lim: -44.82 -39.09 -32.30 -25.90 Over limi -44.63 -38.91 -33.13 -25.08	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark t Peak Peak Peak Peak Peak Peak	
Туре	1 2 3 4 Mark 1 2 3 4	150 382 487 872 Fro 123 381 492 804	equency MHz 2.73 4.76 1.10 5.48 802.11 equency MHz 8.41 5.03 0.96 2.90	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading dBuV/m 34.87 32.57 33.13 30.76	Antenna dB 25.88 29.70 31.40 37.70 Test cl Antenna dB 25.83 29.66 31.44 37.19	Cable dB 5.78 9.87 11.51 15.33 nannel Cable dB 5.22 9.86 11.51 14.28 nannel	Pr d 36. 35. 34. Pre dE 36. 37. 33. 33.	eamp B 82 97 16 75 CH1 55 20 21 31 CH1 eamp	Aux dB 0.00 0.00 0.00 1 Aux dB 0.00 0.00 0.00 0.00	dBuV 29.18 34.91 41.64 48.04 Level dBuV/ 29.37 35.09 40.87	Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 arity Limit dBuV/m 74.00 74.00 74.00 74.00	m lim: -44.82 -39.09 -32.30 -25.90 Over limi -44.63 -38.91 -33.13 -25.08	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark t Peak Peak Peak Peak Peak Peak Peak	
Туре	1 2 3 4 Mark 1 2 3 4	150 382 487 872 123 381 492 804	equency MHz 2.73 4.76 1.10 5.48 802.11 equency MHz 8.41 5.03 0.96 2.90 802.11 equency	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading dBuV/m 34.87 32.57 33.13 30.76 b Reading	Antenna dB 25.88 29.70 31.40 37.70 Test cl Antenna dB 25.83 29.66 31.44 37.19 Test cl Antenna	Cable dB 5.78 9.87 11.51 15.33 nannel Cable dB 5.22 9.86 11.51 14.28 nannel Cable	Pre d 36. 35. 34. Pre dE 36. 37. 33. 33. 33.	eamp B 82 97 16 75 CH1 55 20 21 31 CH1 cH1	Aux dB 0.00 0.00 0.00 1 Aux dB 0.00 0.00 0.00 0.00 1 Aux	dBuV 29.18 34.91 41.64 48.04 Level dBuV/ 29.37 35.09 40.87 48.92 Level	Pola Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00	m lim: -44.82 -39.09 -32.30 -25.90 Over limi -44.63 -38.91 -33.13 -25.08	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark t Peak Peak Peak Peak Peak Peak t	
Туре	1 2 3 4 Mark 1 2 3 4 Mark 1	150 382 487 872 123 381 492 804 Fro 129	equency MHz 2.73 4.76 1.10 5.48 802.11 equency MHz 8.41 5.03 0.96 2.90 802.11 equency HHz	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading dBuV/m 34.87 32.57 33.13 30.76 b Reading dBuV/m	Antenna dB 25.88 29.70 31.40 37.70 Test cl Antenna dB 25.83 29.66 31.44 37.19 Test cl Antenna dB	Cable dB 5.78 9.87 11.51 15.33 nannel Cable dB 5.22 9.86 11.51 14.28 nannel Cable dB 5.40 9.99	Pre d 36. 35. 34. Pre dE 36.5 37.0 35.2 33.3 Pre dE 36.3 37.0 2 37.0	eamp B 82 97 16 75 CH1 55 20 21 31 CH1 31 CH1 32 32 30	Aux dB 0.00 0.00 0.00 1 Aux dB 0.00 0.00 0.00 0.00 1 Aux dB	dBuV 29.18 34.91 41.64 48.04 Level dBuV/ 29.37 35.09 40.87 48.92 Level dBuV/	Pola	Limit dBuV/r 74.00 74.00 74.00 74.00 74.00 arity 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00 74.00	m lim: -44.82 -39.09 -32.30 -25.90 Over limi -44.63 -38.91 -33.13 -25.08	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark t Peak Peak Peak Peak Peak t Peak Peak	
Туре	1 2 3 4 Mark 1 2 3 4 Mark 1	150 382 487 872 Fro 123 381 492 804 Fro 129 363 4920	equency MHz 2.73 4.76 1.10 5.48 802.11 equency MHz 8.41 5.03 0.96 2.90 802.11 equency HHz 3.17	Reading dBuV/m 34.34 32.31 33.89 29.76 b Reading dBuV/m 34.87 32.57 33.13 30.76 b Reading dBuV/m 34.71	Antenna dB 25.88 29.70 31.40 37.70 Test cl Antenna dB 25.83 29.66 31.44 37.19 Test cl Antenna dB 25.99	Cable dB 5.78 9.87 11.51 15.33 nannel Cable dB 5.22 9.86 11.51 14.28 nannel Cable dB 5.40	Pre d36. 35. 34. Pre dE 36.5 37.6 35.2 33.3 33.3 37.6 35.2 33.2	eamp B 82 97 16 75 CH1 55 20 21 31 CH1 31 CH1 32 30 21	Aux dB 0.00 0.00 0.00 1 Aux dB 0.00 0.00 0.00 0.00 1 Aux dB 0.000 0.00 0.	dBuV 29.18 34.91 41.64 48.04 Level dBuV/ 29.37 35.09 40.87 48.92 Level dBuV/ 29.78	Pola	Limit dBuV/r 74.00	m lim: -44.82 -39.09 -32.30 -25.90 Over limi -44.63 -38.91 -33.13 -25.08	r Remark it 2 Peak 9 Peak 6 Peak 6 Peak Horizontal Remark t Peak Peak Peak Peak Peak t Remark t Peak Peak Peak Peak Peak	

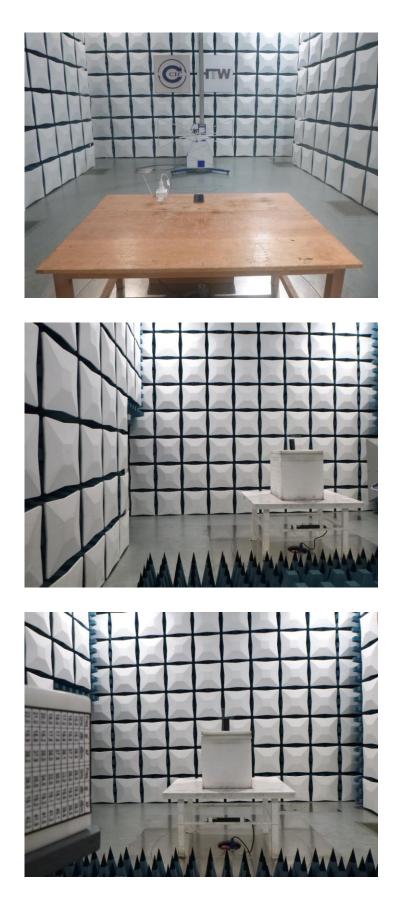
TEST DATA FOR 1 GHz ~ 25 GHz

Туре			802.11	g	Test ch	nannel		CH0	1		Polarity		Horizontal	
-	Mark			Reading						Level		Over	Remark	
	1 2 3 4	126 367 482	MHz 0.67 2.11 1.76 2.46	dBuV/m 35.82 34.22 37.54 30.43	31.40	dB 5.29 9.88 11.52 14.29	35.	46 03 24		dBuV/ 30.57 36.47 45.22 48.55	74.00 74.00	-43.43 -37.53 -28.78	Peak Peak Peak	
Туре			802.11		Test ch			CH0			Polarity		Vertical	
-	Mark		equency MHz	Reading dBuV/m	Antenna dB	Cable dB		eamp B	Aux dB	Leve] dBuV/		Over limit		
	1 2	130	6.41 4.28	33.76 32.39	26.04	5.43 9.89	36. 36.	31	0.00	28.92 35.17	74.00	-45.08	Peak	
	3 4		1.76 2.46	35.27 30.65	31.40 37.14	11.52 14.29				42.95 48.77	74.00 74.00	-31.05 -25.23		
Туре			802.11	g	Test ch	nannel		CH0	6		Polarity		Horizontal	
	Mark		equency MHz	Reading dBuV/m	Antenna dB	Cable dB		eamp B	Aux dB	Level dBuV/		Over limit	Remark	
	1 2	375	5.26 7.21	36.01 33.35		5.21 9.82	37.	13	0.00	30.47	74.00	-43.53	Peak Peak	
	3 4		71.10 7.08	33.56 31.12	31.40 37.47	11.51 15.00			0.00 0.00	41.31 48.46	74.00 74.00	-32.69 -25.54	Peak Peak	
Туре			802.11	g	Test ch	nannel		CH0	6		Polarity		Vertical	
-	Mark		equency MHz	Reading dBuV/m	Antenna dB	Cable dB	Pr d		Aux dB	Level dBuV/		Over limit		
	1 2 3	365	6.61 3.46 1.10	35.08 32.32 32.11	25.97 29.40 31.40	5.38 9.93 11.51	37.	02	0.00 0.00 0.00	30.08 34.63 39.86		-43.92 -39.37 -34.14	Peak	
Туре	4	798	1.72 802.11	30.12	37.03 Test ch	14.35	33.	31 CH1		48.19	74.00 Polarity	-25.81	Peak Horizontal	
- турс														
	Mark 1		MHz MHz 54.18	Reading dBuV/m 34.96		dB 5.50	0	IB .	dB	Leve dBuV 30.25	/m dBuV/		t	
	2 3	352 537	25.56 79.50	33.02 30.18	29.20 31.62	9.65 12.10	36. 35.	.71 .26	0.00 0.00	35.16 38.64	74.00 74.00	-38.84 -35.36	Peak Peak	
Tuno	4	794	802.11	30.92	36.88	14.47	33.	.32 CH1		48.95		-25.05	Vertical	
Туре			002.11	J 	Test ch						Polarity		venical	
		I	MHz	Reading dBuV/m	dB	dB	d	B	dB	Leve dBuV	/m dBuV/r	m limi	t	
	1 2 3	365	9.77 3.46 3.50	34.18 32.94 31.51	26.00 29.40 31.47	5.42 9.93 11.52	37.	02	0.00 0.00 0.00	29.31 35.25 39.30	74.00		eak Peak	
	4		2.90	30.19	37.19	14.28				48.35		-25.65		

Туре			802.11	n(HT20)	Test cl	nannel		CH0	1		Polarity		Horizontal	
	Mark		equency /Hz	Reading dBuV/m	dB	dB		eamp B	dB	Level dBuV/		Over limi	Remark t	
	1 2 3	1303 3552 4821	2.58	34.94 32.48 36.80	26.02 29.31 31.40	5.42 9.82 11.52	36. 36. 35.	80	0.00 0.00 0.00	30.08 34.81 44.48	74.00 74.00 74.00	-43.92 -39.19 -29.52	Peak Peak Peak	
	4	7921		30.41	36.84	14.53				44.48	74.00		Peak	
Туре			802.11	n(HT20)	Test cl	nannel		CH0	1		Polarity		Vertical	
-		М	Hz	Reading dBuV/m	dB	dB	Pr d		Aux dB	Level dBuV/		Over limi	Remark t	
		1235 3681		35.85 33.55	25.81 29.40	5.21 9.85	36.		0.00 0.00	30.31 35.76	74.00 74.00	-43.69 -38.24	Peak Peak	
		4821		33.29		11.52	35.		0.00	40.97	74.00	-33.03	Peak	
	4	7880	.77	30.21	36.72	14.54	33.	31	0.00	48.16	74.00	-25.84	Peak	
Туре			802.11	n(HT20)	Test cl	nannel		CH0	6		Polarity		Horizontal	
-		1	equency MHz	dBuV/m	Antenna dB	dB	d	в	dB	Level dBuV/	′m dBuV/m			
	1 2		9.77 0.85	34.98 33.32	26.00 29.40	5.42 9.82	36. 37.		0.00 0.00	30.11 35.50	74.00 74.00	-43.89 -38.50	Peak Peak	
	3		1.10	32.65	31.40	11.51	35.		0.00	40.40	74.00	-33.60	Peak	
	4		1.19	30.56	36.88	14.47	33.		0.00	48.59	74.00	-25.41	Peak	
Туре			802.11	n(HT20)	Test cl	nannel		CH0	6		Polarity		Vertical	
-	Mark		equency MHz	Reading dBuV/m	Antenna dB	Cable dB	Pr d		Aux dB	Level dBuV/		Over limit	Remark	
	1	1290	6.47	34.88	25.99	5.41	36.		0.00	29.98		-44.02	Peak	
					29.36	9.98		00						
1	2		9.82	32.60					0.00	35.06		-38.94	Peak	
	2 3 4	4871		32.60 30.49 31.09	31.40 39.50	11.51 15.26	35.	16	0.00 0.00 0.00	35.06 38.24 49.20	74.00	-38.94 -35.76 -24.80	Peak Peak Peak	
Туре	3	4871	9.82 1.10 9.47	30.49	31.40	11.51 15.26	35.	16	0.00 0.00	38.24	74.00	-35.76	Peak	
Туре	3 4	4871 9859 Fre	9.82 1.10 9.47 802.11 equency	30.49 31.09 n(HT20) Reading	31.40 39.50 Test cl	11.51 15.26 nannel Cable	35. 36. Pr	16 65 CH1 	0.00 0.00 1 Aux	38.24 49.20 Level	74.00 74.00 Polarity	-35.76 -24.80 Over	Peak Peak Horizontal	
Туре	3 4	4871 9859 Fre	9.82 1.10 9.47 802.11 equency	30.49 31.09 n(HT20)	31.40 39.50 Test cl	11.51 15.26 nannel	35. 36. Pr d	16 65 CH1 eamp B	0.00 0.00 1	38.24 49.20 Level dBuV/	74.00 74.00 Polarity	-35.76 -24.80 Over limi	Peak Peak Horizontal	
Туре	3 4 Mark 1 2	487: 9859 Fre N 1257 3176	9.82 1.10 9.47 802.11 equency ⁴ Hz 7.47 5.16	30.49 31.09 n(HT20) Reading dBuV/m 34.91 33.77	31.40 39.50 Test cl Antenna dB 25.92 28.95	11.51 15.26 nannel Cable dB 5.28 8.70	35. 36. Pr d 36. 37.	16 65 CH1 eamp B 47 09	0.00 0.00 1 Aux dB 0.00 0.00	38.24 49.20 Level dBuV/ 29.64 34.33	74.00 74.00 Polarity Limit m dBuV/m 74.00 74.00	-35.76 -24.80 Over limi -44.36 -39.67	Peak Peak Horizontal Remark t Peak Peak	
Туре	3 4 Mark 1	487: 9859 Fre N 1257 3176 5191	9.82 1.10 9.47 802.11 equency ⁴ Hz 7.47 5.16	30.49 31.09 n(HT20) Reading dBuV/m 34.91	31.40 39.50 Test cl Antenna dB 25.92	11.51 15.26 nannel Cable dB 5.28 8.70	35. 36. Pr d 36. 37. 35.	16 65 CH1 eamp B 47 09 40	0.00 0.00 1 Aux dB 0.00 0.00 0.00	38.24 49.20 Level dBuV/ 29.64 34.33	74.00 74.00 Polarity Limit m dBuV/m 74.00 74.00 74.00	-35.76 -24.80 Over limi -44.36 -39.67	Peak Peak Horizontal Remark t Peak Peak Peak Peak	
Туре	3 4 Mark 1 2 3	487: 9859 Fre N 1257 3176 5191	9.82 1.10 9.47 802.11 equency 4Hz 7.47 5.16 1.17 2.90	30.49 31.09 n(HT2O) Reading dBuV/m 34.91 33.77 31.40	31.40 39.50 Test cl Antenna dB 25.92 28.95 31.75 37.19	11.51 15.26 nannel Cable dB 5.28 8.70 11.50	35. 36. Pr d 36. 37. 35. 33.	16 65 CH1 eamp B 47 09 40	0.00 0.00 1 Aux dB 0.00 0.00 0.00 0.00	38.24 49.20 Level dBuV/ 29.64 34.33 39.25	74.00 74.00 Polarity Limit m dBuV/m 74.00 74.00 74.00	-35.76 -24.80 Over limi -44.36 -39.67 -34.75	Peak Peak Horizontal Remark t Peak Peak Peak Peak	
	3 4 Mark 1 2 3 4	487: 9859 Fre M 1257 3176 5191 8042	9.82 1.10 9.47 802.11 equency MHz 7.47 5.16 1.17 2.90 802.11	30.49 31.09 n(HT20) Reading dBuV/m 34.91 33.77 31.40 30.47	31.40 39.50 Test cl Antenna dB 25.92 28.95 31.75 37.19 Test cl	11.51 15.26 nannel Cable dB 5.28 8.70 11.50 14.28 nannel	35. 36. Pr 36. 37. 35. 33.	16 65 CH1 eamp 8 47 09 40 31 CH1 cH1	0.00 0.00 1 Aux dB 0.00 0.00 0.00 0.00 1 Aux	38.24 49.20 Level dBuV/ 29.64 34.33 39.25 48.63 Level	74.00 74.00 Polarity Limit dBuV/m 74.00 74.00 74.00 74.00 74.00	-35.76 -24.80 Over limi -44.36 -39.67 -34.75 -25.37 Over	Peak Peak Horizontal Remark Peak Peak Peak Peak Peak Peak Peak Remark	
	3 4 Mark 1 2 3 4 Mark 1	487: 9859 Fre 1257 3176 5191 8042	9.82 1.10 9.47 802.11 equency MHz 7.47 5.16 1.17 2.90 802.11 equency MHz 4.73	30.49 31.09 n(HT20) Reading dBuV/m 34.91 33.77 31.40 30.47 n(HT20) Reading dBuV/m 35.14	31.40 39.50 Test cl Antenna dB 25.92 28.95 31.75 37.19 Test cl Antenna dB 25.87	11.51 15.26 nannel Cable dB 5.28 8.70 11.50 14.28 nannel Cable dB 5.24	35. 36. Pr d 36. 37. 35. 33. Pr d 33.	16 65 CH1 eamp 8 47 09 40 31 CH1 ceamp 8 52	0.00 0.00 1 Aux dB 0.00 0.00 0.00 0.00 1 Aux dB 0.00	38.24 49.20 Level dBuV/ 29.64 34.33 39.25 48.63 Level dBuV/ 29.73	74.00 74.00 Polarity Limit dBuV/m 74.00 74.00 74.00 74.00 74.00 Limit m dBuV/m 74.00	-35.76 -24.80 Over limi -44.36 -39.67 -34.75 -25.37 Over limit -44.27	Peak Peak Horizontal Remark Peak Peak Peak Peak Vertical Remark	
	3 4 Mark 1 2 3 4 Mark	487: 9859 Fre N 1257 3176 5191 8042 5191 8042	9.82 1.10 9.47 802.11 equency MHz 7.47 5.16 1.17 2.90 802.11 equency MHz	30.49 31.09 n(HT20) Reading dBuV/m 34.91 33.77 31.40 30.47 n(HT20) Reading dBuV/m	31.40 39.50 Test cl Antenna dB 25.92 28.95 31.75 37.19 Test cl Antenna dB 25.87	11.51 15.26 nannel Cable dB 5.28 8.70 11.50 14.28 nannel Cable dB	35. 36. Pr d 36. 37. 33. Pr d 36. 33.	16 65 CH1 eamp 8 47 09 40 31 CH1 52 02	0.00 0.00 1 Aux dB 0.00 0.00 0.00 0.00 1 Aux dB 0.00 0.00	38.24 49.20 Level dBuV/ 29.64 34.33 39.25 48.63 Level dBuV/	74.00 74.00 Polarity Limit dBuV/m 74.00 74.00 74.00 74.00 74.00 Limit m dBuV/m 74.00	-35.76 -24.80 Over limi -44.36 -39.67 -34.75 -25.37 Over limit -44.27 -38.97	Peak Peak Horizontal Remark Peak Peak Peak Peak Peak Peak Peak Remark	

6. TEST SETUP PHOTOS

Radiated Emission



AC Conducted Emission



7. EXTERANAL AND INTERNAL PHOTOS

Reference to the test report No. : CHTEW21070065..

8. APPENDIX REPORT