

#Video BW 3.0 MHz

Iding A-B Baoli'an Industrial Park No. 58 and 60 Tangtou Ave TEL: 0086-755-26996192 26996053 26996144

? Oct 19, 2024 ... 9:32:38 AM

ation& Test

Span 0 Hz Sweep 31.6 s (10001 pts)

World Standardization Certification & Testing Group (Shenzhen)Co.,ltd.

Report No.: WSCT-ANAB-R&E241100057A-BT





WSCI Dwell NVNT 1-DH5 2441MHz Ant1 One Burst + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Power Trig: Video Trig Delay: -500.0 μs W ** ** ** ** P N N N N N ΔMkr1 2.879 ms 1 Spectrum Ref LvI Offset 4.28 dB Ref Level 20.00 dBm -2.65 dB Scale/Div 10 dB THE RESIDENCE OF STREET, AND PROPERTY WAS DESCRIPTED AND PROPERTY OF THE PROPE Center 2.441000000 GHz Res BW 1.0 MHz Span 0 Hz Sweep 10.0 ms (10001 pts) #Video BW 3.0 MHz Function Width Function Value -2.65 dB -10.35 dBm 2.879 ms (Δ) 496.0 μs ? Oct 19, 2024 9:36:09 AM #56 Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Fast Gate: Off IF Gain: Low Sig Track: Off PNNNNN Ref LvI Offset 4.28 dB Ref Level 20.00 dBm Scale/Div 10 dB

WSCT WSCT WSCT WSCT WSCT

#Video BW 3.0 MHz

VSCT WSCT WSCT WSCT

DD: Building A-B,Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chir

? Oct 19, 2024 9:36:43 AM

Center 2.441000000 GHz Res BW 1.0 MHz

> 深圳世标检测认证股份有限公司 World Standardization Certification& Testing Group(Shenzhen) Co.,Lt

ation& Test

Span 0 Hz Sweep 31.6 s (10001 pts)

World Standardization Certification & Testing Group (Shenzhen)Co.,ltd.

Report No.: WSCT-ANAB-R&E241100057A-BT





WSCI Dwell NVNT 1-DH5 2480MHz Ant1 One Burst **+** Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Power Trig: Video Trig Delay: -500.0 μs W ** ** ** ** P N N N N N ΔMkr1 2.879 ms 1 Spectrum Ref LvI Offset 4.33 dB Ref Level 20.00 dBm -2.32 dB Scale/Div 10 dB 1Δ2 Center 2.480000000 GHz Res BW 1.0 MHz Span 0 Hz Sweep 10.0 ms (10001 pts) #Video BW 3.0 MHz Function Width Function Value -2.32 dB -5.82 dBm 2.879 ms (Δ) 497.0 μs ? Oct 19, 2024 9:40:53 AM 50 Dwell NVNT 1-DH5 2480MHz Ant1 Accumulated Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Fast Gate: Off IF Gain: Low Sig Track: Off PNNNNN Ref LvI Offset 4.33 dB Ref Level 20.00 dBm Scale/Div 10 dB Center 2.480000000 GHz Res BW 1.0 MHz #Video BW 3.0 MHz Span 0 Hz Sweep 31.6 s (10001 pts) ? Oct 19, 2024 9:41:27 AM



WSET WSET WSET

ADD: Building A-B,Baoil'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chin

深圳世标检测认证股份有限公司 World Standard zation Certification& Testing Group(Shenzhen) Co.,Ltd





Report No.: WSCT-ANAB-R&E241100057A-BT

W5CT°

6.8. Pseudorandom Frequency Hopping Sequence

World Standardization Certification & Testing Group (Shenzhen) Co., ltd.

Test Requirement: FCC Part15 C Section 15.247 (a)(1) requirement:

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

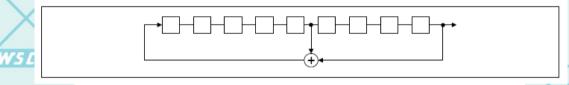
Alternatively. Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

EUT Pseudorandom Frequency Hopping Sequence

The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first one of 9 consecutive ones; i.e. the shift register is initialized with nine ones.

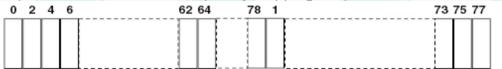
- Number of shift register stages: 9
- Length of pseudo-random sequence: 2⁹-1 = 511 bits
- Longest sequence of zeros: 8 (non-inverted signal)

ZWSLI



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:



Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

WSET WSET WSET WSET

W5CT

WSCT

WSCT

aws LT

WSCT SALON TO STORY

VS CT WS CT

AWSLI

AWSLI

DD: Building A-B,Baoli'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chir EL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.co

深圳世标检测认证股份有限公司 World Standard ration Certification & Testing Group (Shenzhen) Co.,Ltd

VS CT WS

Page 50 of 76





Report No.: WSCT-ANAB-R&E241100057A-BT

W5 CI

Conducted Band Edge Measurement 6.9.

691	Tost S	pecification 5
0.9.1.	1621 2	pecification

W5 C

W5 E

W5 E

W5C7

	Test Requirement:	FCC Part15 C Section 15.247 (d)	
7°	Test Method:	ANSI C63.10:2014 W5 [7] W5 [7]	
	Limit:	In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.	WSET
7°	Test Setup:	Spectrum Analyzer EUT	
	Test Mode:	Transmitting mode with modulation	
	Test Procedure:	 The testing follows the guidelines in Band-edge Compliance of RF Conducted Emissions of ANSI C63.10:2014 Measurement Guidelines. Set to the maximum power setting and enable the EUT transmit continuously. Set RBW = 100 kHz (≥1% span=10MHz), VBW = 300 kHz (≥RBW). Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100kHz RBW. The attenuation shall be 30 dB instead of 20 dB when RMS conducted output power procedure is used. Enable hopping function of the EUT and then repeat step 2 and 3. Measure and record the results in the test report. 	WSCT
	Test Result:	PASS	
-	TIPI TIPI	TIPITAL TIPITAL	WSLI

W5 CT

W5 ET

WS CT

Page 51 of 76

World Standardization Certification & Testing Group (Shenzhen)Co.,ltd.

Report No.: WSCT-ANAB-R&E241100057A-BT





Report No.: WSCT-ANAB-R&E241100057A-BT

Test Data





深圳世标检测认证股份有限公司
World Standard Zation Certification& Testing Group (Shenzhen) Co.,Ltd

World Standardization Certification & Testing Group (Shenzhen)Co.,ltd.

Report No.: WSCT-ANAB-R&E241100057A-BT



W5C7



Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref SCPI + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF Avg Type: Log-Power Avg|Hold: 2000/2000 Trig: Free Run Mkr1 2.476 848 GHz 1 Spectrum Ref LvI Offset 4.33 dB Ref Level 20.00 dBm 0.97 dBm Scale/Div 10 dB Center 2.480000 GHz #Res BW 100 kHz #Video BW 300 kHz Span 8.000 MHz Sweep 1.00 ms (1001 pts) ? Oct 19, 2024 9:40:19 AM 1 5 6 Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF #Atten: 30 dB Preamp: Off PNO: Fast Gate: Off IF Gain: Low Sig Track: Off PNNNNN Mkr1 2.476 8 GHz Ref LvI Offset 4.33 dB Ref Level 20.00 dBm 1.00 dBm Scale/Div 10 dB Mary man of the mount of the second **∂**2 Start 2.47600 GHz #Res BW 100 kHz Stop 2.57600 GHz Sweep 9.60 ms (1001 pts) #Video BW 300 kHz Function Width Function Value 2.500 0 GHz 2.494 3 GHz -56.03 dBm -53.44 dBm ? Oct 19, 2024 9:40:47 AM

WSET WSET WSET WSET WSET

WSET WSET WSET WSE

ADD: Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chin.
TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司 World Standardization Certification& Testing Group(Shenzhen) Co.,Lt







Report No.: WSCT-ANAB-R&E241100057A-BT

Conducted Spurious Emission Measurement 6.10.

Test Specification 6.10.1.

W5 L

W5 CT

NSLT		SLT

	Test Requirement:	FCC Part15 C Section 15.247 (d)	
7	Test Method:	ANSI C63.10:2014	
7	Limit:	In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.	WSCT
7	Test Setup:	Spectrum Analyzer EUT WSET	
	Test Mode:	Transmitting mode with modulation	
	Test Procedure:	 The testing follows the guidelines in Spurious RF Conducted Emissions of ANSI C63.10:2014 Measurement Guidelines The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Set RBW = 100 kHz, VBW = 300kHz, scan up through 10th harmonic. All harmonics / spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. Measure and record the results in the test report. The RF fundamental frequency should be excluded against the limit line in the operating frequency band. 	WSCT
	Test Result:	PASS	X
	WELL	T' WEET'	West and

W5 CT W5 ET WS CT

TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605

Page 54 of 76

W5 CT

W5CT® World Standardization Certification & Testing Group (Shenzhen) Co., ltd. Report No.: WSCT-ANAB-R&E241100057A-BT



WSE



Test Data Test Graphs Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref Spectrum Analyzer Swept SA SCPI + PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) Avg Type: Log-Power Avg|Hold: 100/100 Trig: Free Run KEYSIGHT Input: RF #Atten: 20 dB Preamp: Off 1 2 3 4 5 6 $M \uplus \uplus \uplus \uplus \uplus$ Align: Auto Mkr1 2.401 844 0 GHz Ref LvI Offset 4.26 dB Ref Level 14.26 dBm 2.50 dBm Scale/Div 10 dB WW myryn Center 2.4020000 GHz #Res BW 100 kHz #Video BW 300 kHz Span 1.500 MHz Sweep 1.00 ms (1001 pts) Oct 21, 2024 (10:19:25 AM Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission Spectrum Analyzer [.] Swept SA SCPI + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Pov Avg|Hold: 10/10 Trig: Free Run 1 2 3 4 5 6 $M \otimes W \otimes W \otimes W$ Alian: Auto Mkr1 2.401 7 GHz Ref LvI Offset 4.26 dB Ref Level 14.26 dBm 2.54 dBm Scale/Div 10 dB DL1 -17.50 dE **⊘**5 #Video BW 300 kHz Start 30 MHz #Res BW 100 kHz Stop 26.50 GHz Sweep ~2.53 s (30001 pts) Function Width Function Value 2.54 dBm -40.41 dBm -56.51 dBm -62.52 dBm -61.81 dBm 904.4 MHz 4.803 4 GHz 7.012 8 GHz 9.482 4 GHz

Oct 21, 2024

**

ation& Test MON # 深圳世标检测认证股份有限公司

ADD: Building A-B Baoli'an Industrial Park No. 58 and 60 Tangtou Avenue hivan Street, Bao'an District, Shenzhen City, Guand TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605

Page 55 of 76



ADD: Building A-B,Baoli'an Industrial Park,No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chir TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standard zation Certification& Testing Group(Shenzhen) Co.,Ltd



ADD: Building A-B, Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China.

TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

Member of the WSCT Group (WSCT SA)

Page 57 of 76

深圳世标检测认证股份有限公司 World Standardization Certification& Testing Group(Shenzhen) Co

World Standardization Certification & Testing Group (Shenzhen) Co.,ltd. **ac-MRA** Report No.: WSCT-ANAB-R&E241100057A-BT WSCI Certificate Number: AT-3951 Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF Avg Type: Log-Pow Avg|Hold: 100/100 Trig: Free Run Mkr1 2.402 168 0 GHz 1 Spectrum Ref LvI Offset 4.26 dB Ref Level 14.26 dBm 1.34 dBm Scale/Div 10 dB am May man #Video BW 300 kHz Center 2.4020000 GHz #Res BW 100 kHz Span 1.500 MHz Sweep 1.00 ms (1001 pts) ? Oct 21, 2024 10:05:34 AM 1 5 6 Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Atten: 20 dB Preamp: Off PNNNNN Mkr1 2.401 7 GHz Ref LvI Offset 4.26 dB Ref Level 14.26 dBm -0.78 dBm Scale/Div 10 dB Stop 26.50 GHz Sweep ~2.53 s (30001 pts) Start 30 MHz #Res BW 100 kHz #Video BW 300 kHz Function Value Function Width

VSCT WSCT WSCT

WSET WSET

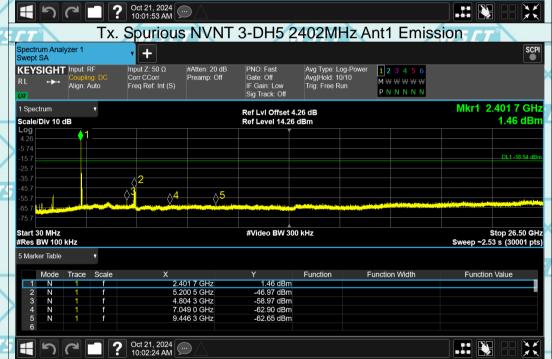
深圳世标检测认证股份有限公司
World Standardization Certification& Testing Group(Shenzhen) Co.,Li

ADD: Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http: www.wsct-cert.com







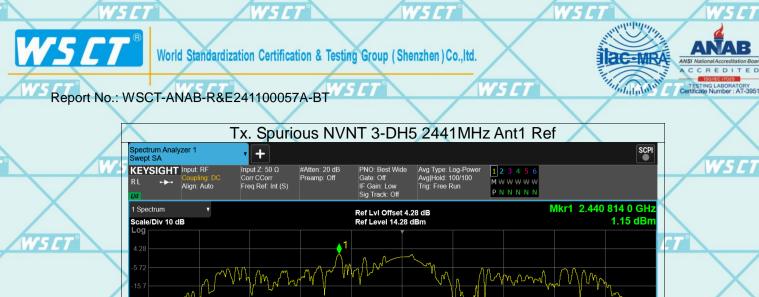


#Video BW 300 kHz

Span 1.500 MHz Sweep 1.00 ms (1001 pts)

Center 2.4020000 GHz #Res BW 100 kHz









World Standardization Certification & Testing Group (Shenzhen) Co., ltd. **ac-MRA** WSCI Certificate Number: AT-3951 Report No.: WSCT-ANAB-R&E241100057A-BT Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF Avg Type: Log-Pow Avg|Hold: 100/100 Trig: Free Run Mkr1 2.479 848 5 GHz 1 Spectrum Ref Lvi Offset 4.33 dB Ref Level 14.33 dBm -0.93 dBm Scale/Div 10 dB #Video BW 300 kHz Center 2.4800000 GHz #Res BW 100 kHz Span 1.500 MHz Sweep 1.00 ms (1001 pts) ? Oct 21, 2024 9:59:59 AM 1 5 6 Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Atten: 20 dB Preamp: Off PNNNNN Mkr1 2.480 2 GHz Ref LvI Offset 4.33 dB Ref Level 14.33 dBm -2.67 dBm Scale/Div 10 dB Stop 26.50 GHz Sweep ~2.53 s (30001 pts) Start 30 MHz #Res BW 100 kHz #Video BW 300 kHz Function Value Function Width -2.67 dBm -27.02 dBm -61.40 dBm -63.12 dBm -62.30 dBm 5.110 5 GHz 7.281 9 GHz 9.854 8 GHz ? Oct 21, 2024 (...) ADD: Building A-B Baoli'an Industrial Park No. 58 and 60 Tangtou Avenue hivan Street, Bao'an District, Shenzhen City, Guano 深圳世标检测认证股份有限公司 TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605

Page 63 of 76



W5 C1

World Standardization Certification & Testing Group (Shenzhen) Co.,ltd.





Report No.: WSCT-ANAB-R&E241100057A-BT

W5 CT

6.11. **Radiated Spurious Emission Measurement**

6.11.1. Test Specification

WS ET

	Test Requirement:	FCC Part15 C Section 15.209						
	Test Method:	ANSI C63.10):2014	WSFT		WSCT		
	Frequency Range:	9 kHz to 25 (GHz					
	Measurement Distance:	3 m						
	Antenna Polarization: W5 [7]	Horizontal &	Vertical		W5	7		
		Frequency	Detector	RBW	VBW	Remark		
	X	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value		
/		150kHz-	Quasi-peak	9kHz	30kHz	Quasi-peak Value		
-0	Receiver Setup	30MHz	e 10	THE CT		THE CO.		

9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value			
150kHz-	Quasi-peak	9kHz	30kHz	Quasi-peak Value			
30MHz		WSIT		WSCT			
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value			
Ab av a 4011-	Peak	1MHz	3MHz	Peak Value			
Above 1GHz	Peak	1MHz	10Hz	Average Value			

Frequency V5 C1	Field Strength	Measurement	
Trequency	(microvolts/meter)	Distance (meters)	
0.009-0.490	2400/F(KHz)	300	
0.490-1.705	24000/F(KHz)	30	
1.705-30	30	30	
30-88	100	/3 <i>5L</i> 7	
88-216	150	3	
216-960	200	3	
Above 960	500	3	

Test setup:

Limit:

Frequency	Field Strength (microvolts/meter)	Measurement Distance (meters)	Detector
Abaya 4CU	500	3	Average
Above 1GHz	A		

WS ET

W5 C7

For radiated emissions below 30MHz

W5 CT W5E

WS CT

W5 C

Distance = 3m Computer Pre -Amplifier EUT Receiver Ground Plane

30MHz to 1GHz



ANAB

ANSI National Accreditation Board

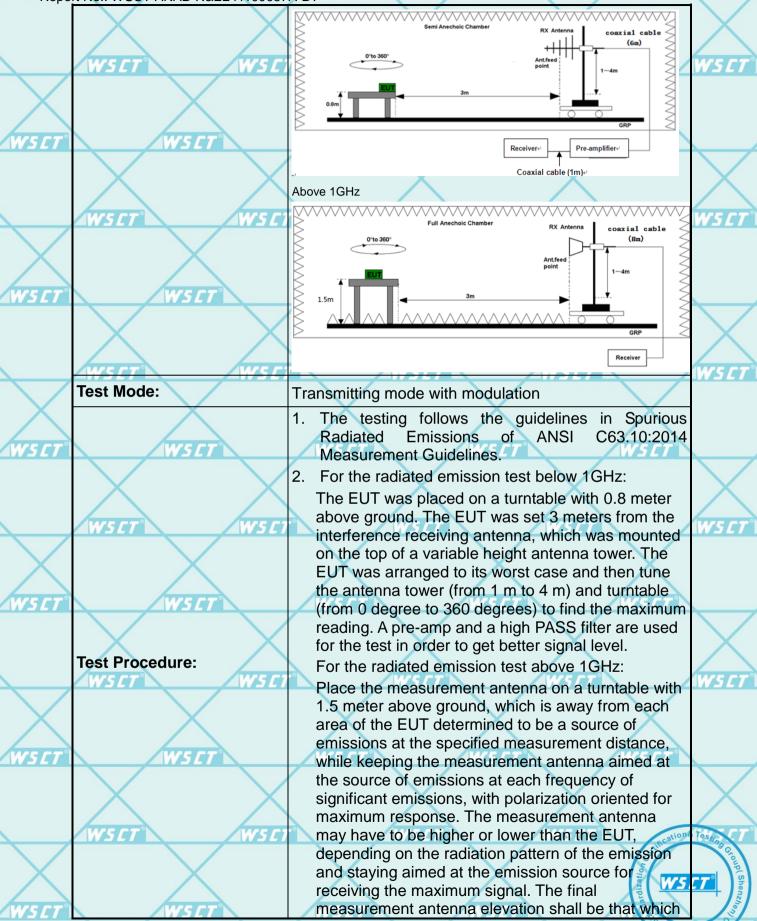
A C C R E D I T E D

SOME 17032

TESTING LABORATORY

Report No.: WSCT-ANAB-R&E241100057A-BT

W5CT"







Report No.: WSCT-ANAB-R&E241100057A-BT

Repo	rt No.: WSC1-ANAB-R&E241100057	/A-B1	
·	X	maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m	X
	WSET WSET	above the ground or reference ground plane.	'S C T
		3. Set to the maximum power setting and enable the	
		EUT transmit continuously.	
W5CT°	WSET	4. Use the following spectrum analyzer settings:	
WP14A	11213	(1) Span shall wide enough to fully capture the	
	\sim	emission being measured;	\vee
		(2) Set RBW=100 kHz for f < 1 GHz, RBW=1MHz	
	WSET WSET	for f>1GHz ; VBW≥RBW;	SET
\bigvee		Sweep = auto; Detector function = peak; Trace = max hold for peak	
WSET	W5ET"	(3) For average measurement: use duty cycle correction factor method per	
		15.35(c). Duty cycle = On time/100 milliseconds	
	\times	On time =N1*L1+N2*L2++Nn-1*LNn-1+Nn*Ln	X
		Where N1 is number of type 1 pulses, L1 is	
	WSET WSE	length of type 1 pulses, etc.	'S ET
\times		Average Emission Level = Peak Emission Level + 20*log(Duty cycle)	
WSET	WSET	Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level	
	Test results:	PASS	X

Note 1: The symbol of "--" in the table which means not application.

VS CT WS CT

Note 2: For the test data above 1 GHz, According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 3: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

Note 4: 5 The EUT is working in the Normal link mode below 1 GHz. All modes have been tested and normal link mode 75 [7] is worst.

WSET WSET WSET WSET

WSET WSET WSET WSE

W5 CT W5 CT W5 CT W5 CT W5 CT

DD: Building A-B,Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chir EL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司 ** Pi**
World Standard zation Certification& Testing Group(Shenzhen) Co.,Lt

VSCT WSCT

Page 66 of 76

WSCT







Report No.: WSCT-ANAB-R&E241100057A-BT

4W5L7

6.11.2. Test Data

Please refer to following diagram for individual

WSET WSET Below 1GHz ET

WSET

Horizontal:



WSET	100	T	14/	FFT		VILL CT			W5CT /
	No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector	
	1	36.5092	40.15	-19.43	20.72	40.00	-19.28	QP	
WSCT	2	84.6277	46.98	-23.91	23.07	40.00	-16.93	QP	WSCT
	3	170.5682	43.76	-20.68	23.08	43.50	-20.42	QP	
X	4	186.0327	48.42	-22.69	25.73	43.50	-17.77	QP	X
	5	296.3135	41.81	-20.39	21.42	46.00	-24.58	QP	
W5 CT	6 *	828.9455	46.19	-10.58	35.61	46.00	-10.39	QP	W5 CT

			W 3 L / L			
X	X	X	×		X	
W5 C7	W5CT [®] 1	W5 CT	W5	47°	W5CT°	
						/

WSET WSET WSET WSET

WSET WSET WSET WSET

DD: Building A-B,Baoll'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chi EL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standard Zation Certification& Testing Group(Shenzhe

Page 67 of 76

lember of the WSCT Group (WSCT SA)





Report No.: WSCT-ANAB-R&E241100057A-BT Vertical:

WSE



No. Detector (MHz) (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) 36.5092 -19.43 1! 53.60 34.17 40.00 -5.83QP 2 41.8779 41.80 -18.91 22.89 40.00 -17.11 QP 3 72.4010 50.13 -22.7027.43 40.00 -12.57QP 4 * 59.44 84.8506 -23.9035.54 40.00 -4.46QP 158.5982 -19.62 43.50 -21.29 QP 5 41.83 22.21 6 190.9064 47.85 -22.99 24.86 43.50 -18.64 QP NSE

Note1:

Freq. = Emission frequency in MHz

Reading level (dBµV) = Receiver reading

Corr. Factor (dB) = Antenna factor + Cable loss - Amplifier factor.

Measurement ($dB\mu V$) = Reading level ($dB\mu V$) + Corr. Factor (dB)

Limit (dBµV) = Limit stated in standard

Margin (dB) = Measurement (dB μ V) – Limits (dB μ V)

WS CI

75 C

深圳世标检测认证股份有限公司

ADD: Building A-B Baoli'an Industrial Park No. 58 and 60 Tangtou Ave hivan Street, Bao'an District, Shenzhen City, Guang TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605





Report No.: WSCT-ANAB-R&E241100057A-BT

W5 CT

Above 1GHz

Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental

Note 2: The spurious above 18G is noise only, do not show on the report.

Low channel: 2402MHz

Horizontal:

W5L



Freq[GHz]

/	Suspu	ited Data Lis	st								
\ -	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
	1	2438.7500	50.04	27.39	22.65	74	-23.96	56.7	Horizontal	PK	Pass
	1	2438.7500	37.23	27.39	9.84	54	-16.77	56.7	Horizontal	AV	Pass
	2	4063.1250	49.12	29.81	19.31	74	-24.88	360.1	Horizontal	PK	Pass
	2	4063.1250	39.2	29.81	9.39	54	-14.8	360.1	Horizontal	AV	Pass
	3	5723.1250	56.62	32.36	24.26	74	-17.38	354.6	Horizontal	PK	Pass
	3	5723.1250	47.15	32.36	14.79	54	-6.85	354.6	Horizontal	AV	Pass
	4	11011.5000	45.33	15.65	29.68	74	-28.67	171.8	Horizontal	PK	Pass
1	4	11011.5000	37.32	15.65	21.67	54	-16.68	171.8	Horizontal	AV	Pass
ij	5	13639.5000	49.51	18.08	31.43	74	-24.49	-0.1	Horizontal	PK	Pass
	5	13639.5000	41.51	18.08	23.43	54	-12.49	-0.1	Horizontal	AV	Pass
	6	17988.0000	53.43	23.84	29.59	74	-20.57	251.9	Horizontal	PK	Pass
	6	17988.0000	46.64	23.84	22.8	54	-7.36	251.9	Horizontal	AV	Pass

WS CT

TEL: 0086-755-26996192 26996053 26996144

Page 69 of 76





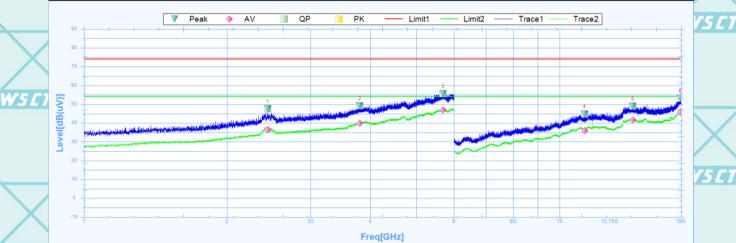


/5*C*1

Report No.: WSCT-ANAB-R&E241100057A-BT

W5 CT

Vertical:



W5 E

W51

/III											
2	Suspu	ited Data Lis	st								
	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
	1	2435.6250	47.57	27.38	20.19	74	-26.43	48.2	Vertical	PK	Pass
	1	2435.6250	36.68	27.38	9.3	54	-17.32	48.2	Vertical	AV	Pass
/	2	3805.0000	49.21	29.23	19.98	74	-24.79	2.2	Vertical	PK	Pass
	2	3805.0000	39.9	29.23	10.67	54	-14.1	2.2	Vertical	AV	Pass
	3	5692.5000	55.73	32.31	23.42	74	-18.27	62.6	Vertical	PK	Pass
	3	5692.5000	47.11	32.31	14.8	54	-6.89	62.6	Vertical	AV	Pass
	4	11290.5000	44.9	15.62	29.28	74	-29.1	181.4	Vertical	PK	Pass
	4	11290.5000	36.02	15.62	20.4	54	-17.98	181.4	Vertical	AV	Pass
	5	14262.0000	48.93	18.86	30.07	74	-25.07	-0.1	Vertical	PK	Pass
	5	14262.0000	41.66	18.86	22.8	54	-12.34	-0.1	Vertical	AV	Pass
	6	17962.5000	53.27	23.66	29.61	74	-20.73	193.3	Vertical	PK	Pass
1	6	17962.5000	45.99	23.66	22.33	54	-8.01	193.3	Vertical	AV	Pass

W5 CT WS CT W5 CI W5 CT

WS ET

W5C1 WS CT W5 E1 WS CT

TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605

深圳世标检测认证股份有限公司 World Standard Lation Certification&

Member of the WSCT Group (WSCT SA)

Page 70 of 76

W5CT°



WS E

World Standardization Certification & Testing Group (Shenzhen) Co., ltd.



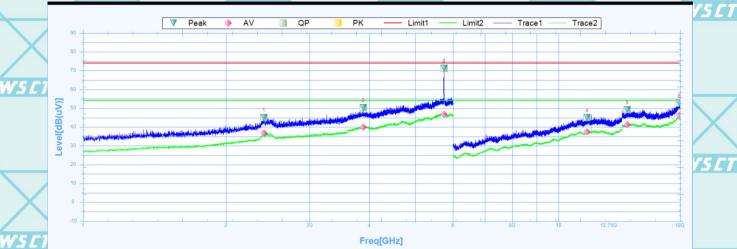


Report No.: WSCT-ANAB-R&E241100057A-BT

W5 CT

Middle channel: 2441MHz

Horizontal:



Ì	Suspu	ited Data Lis	st								
	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
-	1	2401.2500	45.12	27.26	17.86	74	-28.88	41.2	Horizontal	PK	Pass
1	1	2401.2500	36.86	27.26	9.6	54	-17.14	41.2	Horizontal	AV	Pass
	2	3888.7500	50.34	29.43	20.91	74	-23.66	238.4	Horizontal	PK	Pass
	2	3888.7500	39.92	29.43	10.49	54	-14.08	238.4	Horizontal	AV	Pass
7	3	5745.0000	71.22	32.39	38.83	74	-2.78	56.7	Horizontal	PK	Pass
	3	5745.0000	46.77	32.39	14.38	54	-7.23	56.7	Horizontal	AV	Pass
	4	11487.0000	45.02	16.09	28.93	74	-28.98	359.1	Horizontal	PK	Pass
	4	11487.0000	37.44	16.09	21.35	54	-16.56	359.1	Horizontal	AV	Pass
	5	13956.0000	49.22	19	30.22	74	-24.78	176.6	Horizontal	PK	Pass
	5	13956.0000	41.18	19	22.18	54	-12.82	176.6	Horizontal	AV	Pass
1	6	17965.5000	52.78	23.68	29.1	74	-21.22	234	Horizontal	PK	Pass
	6	17965.5000	46.11	23.68	22.43	54	-7.89	234	Horizontal	AV	Pass

	0	17965.5000	46.11	23.68	22.43	54	-7.89	234	Honzontai	AV	Pass	
	WSET		WSET		W5E		W	SET		W5	CT°	
		WSET	,	WSCI		WSE			WSG			WS ET
	WSCT		WSET		WSG			5 5 7		WS		
\		WSCT		WSCI		WSE			WSG			
	X		X		\times			X		ardization C.	W5Ci	Group (Shenzh

FAX: 0086-755-86376605

ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue

TEL: 0086-755-26996192 26996053 26996144

Member of the WSCT Group (WSCT SA)

Page 71 of 76







'S C 1

Report No.: WSCT-ANAB-R&E241100057A-BT

W5 CT

Vertical:



WSE

W5 E

Sus	puted Data Lis	st								
NO	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	2440.6250	46.89	27.4	19.49	74	-27.11	3.1	Vertical	PK	Pass
1	2440.6250	36.85	27.4	9.45	54	-17.15	3.1	Vertical	AV	Pass
2	3753.1250	48.13	29.11	19.02	74	-25.87	37.6	Vertical	PK	Pass
2	3753.1250	38.49	29.11	9.38	54	-15.51	37.6	Vertical	AV	Pass
3	5673.1250	56.48	32.28	24.2	74	-17.52	75.8	Vertical	PK	Pass
7 3	5673.1250	46.98	32.28	14.7	54	-7.02	75.8	Vertical	AV	Pass
4	9837.0000	41.08	12	29.08	74	-32.92	274.6	Vertical	PK	Pass
4	9837.0000	33.53	12	21.53	54	-20.47	274.6	Vertical	AV	Pass
5	12060.0000	46.19	16.74	29.45	74	-27.81	145.5	Vertical	PK	Pass
5	12060.0000	37.44	16.74	20.7	54	-16.56	145.5	Vertical	AV	Pass
6	17965.5000	53.35	23.68	29.67	74	-20.65	90.6	Vertical	PK	Pass
6	17965.5000	46.19	23.68	22.51	54	-7.81	90.6	Vertical	AV	Pass

W5 CT WS CT W5 CI W5 CT

W5 E7

W5C1 WS CT W5 E1 WS CT

ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605

深圳世标检测认证股份有限公司 World Standard Lation Certifications

Member of the WSCT Group (WSCT SA)

Page 72 of 76

W5CT°



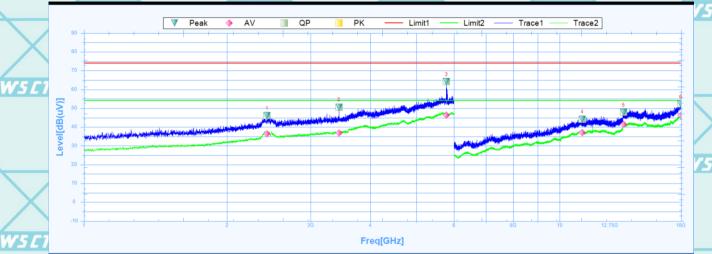


Report No.: WSCT-ANAB-R&E241100057A-BT

W5CT°

High channel: 2480MHz

Horizontal:



	Suspu	ited Data Lis	st								
	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
	1	2426.2500	46.15	27.35	18.8	74	-27.85	359	Horizontal	PK	Pass
/	1	2426.2500	36.51	27.35	9.16	54	-17.49	359	Horizontal	AV	Pass
	2	3438.1250	50.64	28.46	22.18	74	-23.36	359.9	Horizontal	PK	Pass
	2	3438.1250	36.76	28.46	8.3	54	-17.24	359.9	Horizontal	AV	Pass
4	3	5786.2500	64.23	32.46	31.77	74	-9.77	216.6	Horizontal	PK	Pass
	3	5786.2500	46.39	32.46	13.93	54	-7.61	216.6	Horizontal	AV	Pass
	4	11164.5000	44.24	15.78	28.46	74	-29.76	312.6	Horizontal	PK	Pass
	4	11164.5000	37.08	15.78	21.3	54	-16.92	312.6	Horizontal	AV	Pass
	5	13629.0000	47.97	18.06	29.91	74	-26.03	360.1	Horizontal	PK	Pass
	5	13629.0000	41.54	18.06	23.48	54	-12.46	360.1	Horizontal	AV	Pass
/	6	17989.5000	52.21	23.86	28.35	74	-21.79	323.3	Horizontal	PK	Pass
	6	17989.5000	46.23	23.86	22.37	54	-7.77	323.3	Horizontal	AV	Pass

W	SET	WSET	WSET	WSET	WSET
WSET	WSET	WSET			
	X	X	X		X

ADD: Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http: www.wsct-cert.com

a. 深圳世标権測认证股份有限公司
World Standard Zation Certification & Testing Groups Sherzhen Co. Ltd.

VSCT WS

W5CT

Member of the WSCT Group (WSCT SA)

Page 73 of 76

SCT WSCT



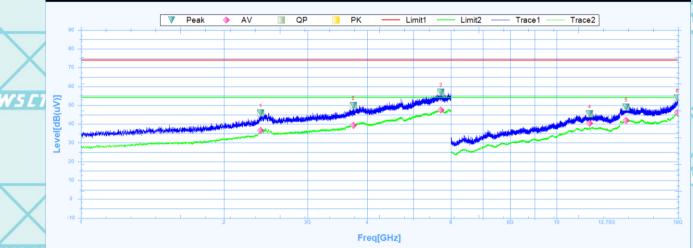




Report No.: WSCT-ANAB-R&E241100057A-BT

WSE

Vertical:



L	Suspu	ited Data Lis	st								
	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
	1	2388.7500	45.84	27.22	18.62	74	-28.16	341.8	Vertical	PK	Pass
	1	2388.7500	36.64	27.22	9.42	54	-17.36	341.8	Vertical	AV	Pass
/	2	3740.0000	49.85	29.08	20.77	74	-24.15	300.9	Vertical	PK	Pass
	2	3740.0000	39.22	29.08	10.14	54	-14.78	300.9	Vertical	AV	Pass
-	3	5716.8750	56.86	32.35	24.51	74	-17.14	72.6	Vertical	PK	Pass
1	3	5716.8750	47.4	32.35	15.05	54	-6.6	72.6	Vertical	AV	Pass
	4	11745.0000	45.43	16.11	29.32	74	-28.57	0.6	Vertical	PK	Pass
	4	11745.0000	40.37	16.11	24.26	54	-13.63	0.6	Vertical	AV	Pass
	5	14014.5000	49.05	19.11	29.94	74	-24.95	344.8	Vertical	PK	Pass
	5	14014.5000	41.91	19.11	22.8	54	-12.09	344.8	Vertical	AV	Pass
	6	17953.5000	53.84	23.6	30.24	74	-20.16	360.1	Vertical	PK	Pass
1	6	17953.5000	46.23	23.6	22.63	54	-7.77	360.1	Vertical	AV	Pass

Note:

- The emission levels of other frequencies are very lower than the limit and not show in test report.
 - Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
 - Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.
 - Measurements were conducted in all three modulation (GFSK, Pi/4 DQPSK, 8DPSK), and the worst case Mode (GFSK) was submitted only.
 - 5. EUT has been tested in unfolded states, and the report only reflects data in the unfolded state (worst-case scenario)

hiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605

Member of the WSCT Group (WSCT SA)

Page 74 of 76





Report No.: WSCT-ANAB-R&E241100057A-BT

WSCI

Restricted Bands Requirements 6.11.1.

Bluetooth (GFSK, Pi/4-DQPSK, 8DPSK)mode have been tested, and the worst result GFSK model was report

	as below								
\	Frequency	Reading	Correct	Emission	Limit	Margin	Polar	Detector	
			Factor	Level		9			
¥.	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V		
				Low Cha	nnel				

_			i actor	Level					,
4	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V		L
	X		\sim	Low Cha	nnel		\ \ \ \ \		
	2387	63.78	-8.76	55.02	74	18.98	H	PK	
	2387	56.28	-8.76	47.52	545	6.48	HV5	AV	
	2387	59.13	-8.73	50.40	74	23.60	V	PK	
	2387	55.03	-8.73	46.30	54	7.70	V	AV	
,	2390	62.54	-8.76	53.78	74	20.22	Н	PK	
7	2390	53.01	-8.76	44.25	54	9.75	Н	AV	L
	2390	61.04	-8.73	52.31	74	21.69	V	PK	
	2390	56.81	-8.73	48.08	54	5.92	V	AV	
	WSET		ZWSLI	High Cha	nnel 45 L /		W51		
/	2483.5	62.47	-8.76	53.71	74	20.29	Н	PK	/
	2483.5	54.00	-8.76	45.24	54	8.76	Н	AV	1
5	2483.5	59.82	-8.73	51.09	74	22.91	V	PK _W s	L
	2483.5	55.54	-8.73	46.81	54	7.19	V	AV	

Note: Freq. = Emission frequency in MHz Reading level (dBµV) = Receiver reading

Corr. Factor (dB) = Attenuation factor + Cable loss

Level $(dB\mu V)$ = Reading level $(dB\mu V)$ + Corr. Factor (dB)Limit $(dB\mu V)$ = Limit stated in standard Margin $(dB) = Level (dB\mu V) - Limits (dB\mu V)$

WSCT	WSCT	WSCT	WSIT	WSIT

_					
	W5CT	W5 [T			APP PT
			W5CT	W5CT	

WS CT

1	W5 CT	WSCT	W5CT	WSCI	W5CT°

WELT	WELT	WELT	METT

TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605

Member of the WSCT Group (WSCT SA)

Page 75 of 76





7. Test Setup Photographs									
	W5 [7] Please refer	to Annex "Set Up Pho	tos-15C" for test setup	photos	WSET				
*****END OF REPORT****									
WSET	WSET	WSET	WSET	W5 ET					
	\times	\times	\times	X	X				
$\overline{}$	W5CT°	W5ET®	WSET® W	YS CT"	W5CT°				
A	7///	71/17	Number 2	7///					
WSET	WSET	WSET	WSET	WSET	$\overline{}$				
	WSCT	WSCT	WSET	SET	WSCT				
X	X	X	X	X					
WSET [®]	WSET	WSET	WSET	WSET	\bigvee				
	WS ET	WSET	WSET	VS ET	WSCT				
WSCT	WSET	WSET	WSCT	WSET					
	X	\times	\times	VSET	WSET				
WSET	WSET	WSET	WSET	WSET					
	\times	\times	\times	\times	X				
	W5CT*	WSET	WSET	VS ET	n& Testing C.				

TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 Member of the WSCT Group (WSCT SA)