



6.8. Radiated Spurious Emissions Measurements

6.8.1.Test Limit

Out of band emissions: The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13dBm.

E (dB μ V/m) = EIRP (dBm) - 20 log D + 104.8; where D is the measurement distance in meters. The emission limit equal to 82.3dB μ V/m.

6.8.2.Test Procedure Used

KDB 971168 D01v03r01 - Section 5.8 & 7

ANSI C63.26-2015 - Section 5.2.7 & 5.5

6.8.3.Test Setting

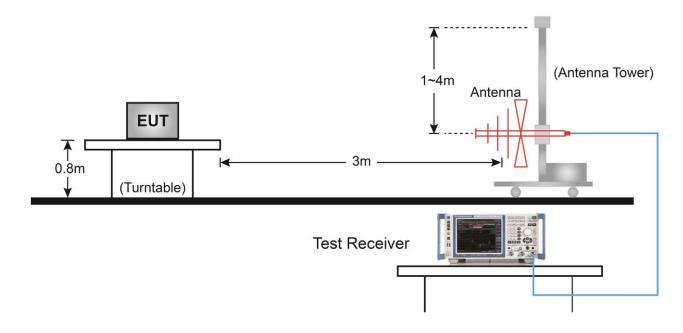
- 1. RBW = 100kHz or 1MHz
- 2. VBW ≥ 3*RBW
- 3. Sweep time ≥ 10 × (number of points in sweep) × (transmission symbol period)
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. The trace was allowed to stabilize

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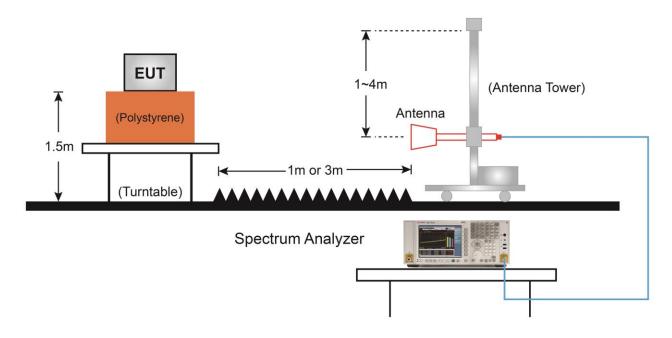


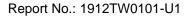
6.8.4.Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:







6.8.5.Test Result

Product	AirScale Indoor Radio ASiR 5G-pRRH	Test Engineer	Peter Xu			
Test Site	AC1	Test Date	2019/11/30			
Test Item	External Antenna, 5G NR Band n41_QPSK, BW = 100MHz					

Frequency	Reading Level	Factor	Measure Level	Limit	Margin	Detector	Polarization			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)					
Bottom Channel (2546.0MHz)										
120.2	16.8	16.9	33.7	82.2	-48.5	Peak	Horizontal			
168.2	17.0	16.3	33.3	82.2	-48.9	Peak	Horizontal			
7596.0	40.7	11.8	52.5	82.2	-29.7	Peak	Horizontal			
10486.0	39.9	16.8	56.7	82.2	-25.5	Peak	Horizontal			
127.0	16.8	16.3	33.1	82.2	-49.1	Peak	Vertical			
169.7	18.9	16.3	35.2	82.2	-47.0	Peak	Vertical			
5819.5	41.1	5.1	46.2	82.2	-36.0	Peak	Vertical			
6661.0	40.0	8.6	48.6	82.2	-33.6	Peak	Vertical			
Middle Chann	el (2593.0MHz)									
120.7	16.8	16.9	33.7	82.2	-48.5	Peak	Horizontal			
187.1	15.9	18.3	34.2	82.2	-48.0	Peak	Horizontal			
5020.5	42.2	3.6	45.8	82.2	-36.4	Peak	Horizontal			
9338.5	41.0	13.7	54.7	82.2	-27.5	Peak	Horizontal			
127.0	16.5	16.3	32.8	82.2	-49.4	Peak	Vertical			
168.2	18.7	16.3	35.0	82.2	-47.2	Peak	Vertical			
5309.5	41.5	3.7	45.2	82.2	-37.0	Peak	Vertical			
7587.5	38.9	11.8	50.7	82.2	-31.5	Peak	Vertical			
Top Channel ((2640.0MHz)									
119.7	16.5	17.0	33.5	82.2	-48.7	Peak	Horizontal			
169.2	18.2	16.3	34.5	82.2	-47.7	Peak	Horizontal			
5046.0	41.5	3.6	45.1	82.2	-37.1	Peak	Horizontal			
9092.0	39.2	13.8	53.0	82.2	-29.2	Peak	Horizontal			
125.5	16.6	16.4	33.0	82.2	-49.2	Peak	Vertical			
169.2	19.0	16.3	35.3	82.2	-46.9	Peak	Vertical			
5828.0	41.3	5.1	46.4	82.2	-35.8	Peak	Vertical			
9398.0	40.1	13.7	53.8	82.2	-28.4	Peak	Vertical			
Note: Measure	lote: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)									

Note: Measure Level ($dB\mu V/m$) = Reading Level ($dB\mu V$) + Factor (dB)

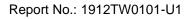
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

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Product	AirScale Indoor Radio ASiR 5G-pRRH	Test Engineer	Peter Xu				
Test Site	AC1	Test Date	2019/11/30				
Test Item	External Antenna, 5G NR Band n41	External Antenna, 5G NR Band n41_16QAM, BW = 100MHz					

Frequency	Reading Level	Factor	Measure Level	Limit	Margin	Detector	Polarization
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
Bottom Chann	nel (2546.0MHz)						
5692.0	42.5	4.6	47.1	82.2	-35.1	Peak	Horizontal
10715.5	38.1	17.2	55.3	82.2	-26.9	Peak	Horizontal
182.8	19.9	17.7	37.6	82.2	-44.6	Peak	Horizontal
309.4	13.1	21.8	34.9	82.2	-47.3	Peak	Horizontal
8208.0	39.3	12.3	51.6	82.2	-30.6	Peak	Vertical
10860.0	38.4	17.4	55.8	82.2	-26.4	Peak	Vertical
131.4	16.2	15.9	32.1	82.2	-50.1	Peak	Vertical
168.2	20.3	16.3	36.6	82.2	-45.6	Peak	Vertical
Middle Chann	el (2593.0MHz)						
8123.0	38.6	12.3	50.9	82.2	-31.3	Peak	Horizontal
10188.5	39.1	15.9	55.0	82.2	-27.2	Peak	Horizontal
194.9	18.9	18.8	37.7	82.2	-44.5	Peak	Horizontal
311.8	11.9	21.9	33.8	82.2	-48.4	Peak	Horizontal
8701.0	39.1	13.0	52.1	82.2	-30.1	Peak	Vertical
9687.0	39.3	14.2	53.5	82.2	-28.7	Peak	Vertical
131.4	16.3	15.9	32.2	82.2	-50.0	Peak	Vertical
169.7	21.1	16.3	37.4	82.2	-44.8	Peak	Vertical
Top Channel ((2640.0MHz)						
9432.0	39.5	13.6	53.1	82.2	-29.1	Peak	Horizontal
14328.0	36.1	20.8	56.9	82.2	-25.3	Peak	Horizontal
182.3	21.5	17.6	39.1	82.2	-43.1	Peak	Horizontal
307.9	12.1	21.7	33.8	82.2	-48.4	Peak	Horizontal
10486.0	37.4	16.8	54.2	82.2	-28.0	Peak	Vertical
14370.5	35.3	20.8	56.1	82.2	-26.1	Peak	Vertical
126.0	15.6	16.4	32.0	82.2	-50.2	Peak	Vertical
169.7	21.4	16.3	37.7	82.2	-44.5	Peak	Vertical
h							





Product	AirScale Indoor Radio ASiR 5G-pRRH	Test Engineer	Peter Xu			
Test Site	AC1	Test Date	2019/11/30			
Test Item	External Antenna, 5G NR Band n41_64QAM, BW = 100MHz					

Frequency	Reading Level	Factor	Measure Level	Limit	Margin	Detector	Polarization				
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector	Dianzalion				
,	Bottom Channel (2546.0MHz)										
	,	11 0	E1 E	92.2	20.7	Dook	Harizantal				
7604.5	39.7	11.8	51.5	82.2	-30.7	Peak	Horizontal				
10384.0	39.4	16.5	55.9	82.2	-26.3	Peak	Horizontal				
124.6	15.8	16.5	32.3	82.2	-49.9	Peak	Horizontal				
194.9	19.2	18.8	38.0	82.2	-44.2	Peak	Horizontal				
8063.5	38.9	12.3	51.2	82.2	-31.0	Peak	Vertical				
11208.5	37.7	17.8	55.5	82.2	-26.7	Peak	Vertical				
131.9	16.4	15.9	32.3	82.2	-49.9	Peak	Vertical				
174.0	20.7	16.7	37.4	82.2	-44.8	Peak	Vertical				
Middle Chann	el (2593.0MHz)										
8369.5	38.5	12.4	50.9	82.2	-31.3	Peak	Horizontal				
11489.0	37.2	18.0	55.2	82.2	-27.0	Peak	Horizontal				
182.3	20.3	17.6	37.9	82.2	-44.3	Peak	Horizontal				
307.4	12.1	21.7	33.8	82.2	-48.4	Peak	Horizontal				
7562.0	37.8	11.8	49.6	82.2	-32.6	Peak	Vertical				
10834.5	37.3	17.3	54.6	82.2	-27.6	Peak	Vertical				
131.9	16.9	15.9	32.8	82.2	-49.4	Peak	Vertical				
169.7	21.0	16.3	37.3	82.2	-44.9	Peak	Vertical				
Top Channel ((2640.0MHz)										
12560.0	37.2	18.0	55.2	82.2	-27.0	Peak	Horizontal				
14489.5	36.2	20.7	56.9	82.2	-25.3	Peak	Horizontal				
122.2	16.6	16.7	33.3	82.2	-48.9	Peak	Horizontal				
182.8	20.2	17.7	37.9	82.2	-44.3	Peak	Horizontal				
10401.0	38.0	16.6	54.6	82.2	-27.6	Peak	Vertical				
14294.0	36.2	20.8	57.0	82.2	-25.2	Peak	Vertical				
129.4	15.8	16.0	31.8	82.2	-50.4	Peak	Vertical				
169.7	21.2	16.3	37.5	82.2	-44.7	Peak	Vertical				
Note: Maga:	Laval (dDu\//:ss\	Dooding	- L aval (dDv)/\ · F	(dD)							



Product	AirScale Indoor Radio ASiR 5G-pRRH	Test Engineer	Peter Xu			
Test Site	AC1	Test Date	2019/11/30			
Test Item	External Antenna, 5G NR Band n41_256QAM, BW = 100MHz					

Frequency	Reading Level	Factor	Measure Level	Limit	Margin	Detector	Polarization
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
Bottom Chann	nel (2546.0MHz)					_	
7570.5	40.7	11.8	52.5	82.2	-29.7	Peak	Horizontal
9908.0	39.3	15.0	54.3	82.2	-27.9	Peak	Horizontal
181.8	19.9	17.5	37.4	82.2	-44.8	Peak	Horizontal
310.3	12.4	21.8	34.2	82.2	-48.0	Peak	Horizontal
8012.5	38.9	12.2	51.1	82.2	-31.1	Peak	Vertical
10868.5	38.8	17.4	56.2	82.2	-26.0	Peak	Vertical
130.4	16.1	16.0	32.1	82.2	-50.1	Peak	Vertical
174.5	20.3	16.8	37.1	82.2	-45.1	Peak	Vertical
Middle Chann	el (2593.0MHz)					_	
10545.5	38.0	16.9	54.9	82.2	-27.3	Peak	Horizontal
14311.0	36.3	20.8	57.1	82.2	-25.1	Peak	Horizontal
182.3	20.2	17.6	37.8	82.2	-44.4	Peak	Horizontal
306.9	12.5	21.7	34.2	82.2	-48.0	Peak	Horizontal
10996.0	37.9	17.6	55.5	82.2	-26.7	Peak	Vertical
14481.0	36.4	20.7	57.1	82.2	-25.1	Peak	Vertical
131.4	16.4	15.9	32.3	82.2	-49.9	Peak	Vertical
169.7	22.0	16.3	38.3	82.2	-43.9	Peak	Vertical
Top Channel ((2640.0MHz)						
8004.0	39.6	12.2	51.8	82.2	-30.4	Peak	Horizontal
10741.0	37.7	17.2	54.9	82.2	-27.3	Peak	Horizontal
182.3	20.5	17.6	38.1	82.2	-44.1	Peak	Horizontal
369.5	10.2	23.7	33.9	82.2	-48.3	Peak	Horizontal
8106.0	38.9	12.3	51.2	82.2	-31.0	Peak	Vertical
10579.5	37.5	17.0	54.5	82.2	-27.7	Peak	Vertical
124.1	15.6	16.6	32.2	82.2	-50.0	Peak	Vertical
168.7	20.7	16.3	37.0	82.2	-45.2	Peak	Vertical
h							



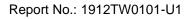
Product	AirScale Indoor Radio ASiR 5G-pRRH	Test Engineer	Peter Xu				
Test Site	AC1	Test Date	2019/12/22				
Test Item	External Antenna, 5G NR Band n41	External Antenna, 5G NR Band n41_QPSK, BW = 60MHz					

Frequency	Reading Level	Factor	Measure Level	Limit	Margin	Detector	Polarization
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
Bottom Chann	nel (2526.0MHz)					_	
209.9	15.0	18.6	33.6	82.2	-48.6	PK	Horizontal
338.9	9.6	23.0	32.6	82.2	-49.6	PK	Horizontal
138.6	16.8	15.5	32.3	82.2	-49.9	PK	Horizontal
192.0	14.4	18.8	33.2	82.2	-49.0	PK	Horizontal
8021.0	39.5	12.2	51.7	82.2	-30.5	PK	Vertical
11404.0	38.8	18.0	56.8	82.2	-25.4	PK	Vertical
8148.5	39.5	12.3	51.8	82.2	-30.4	PK	Vertical
11021.5	38.2	17.6	55.8	82.2	-26.4	PK	Vertical
Middle Chann	el (2593.0MHz)						
210.4	14.9	18.6	33.5	82.2	-48.7	PK	Horizontal
343.3	9.3	23.2	32.5	82.2	-49.7	PK	Horizontal
133.3	16.2	15.8	32.0	82.2	-50.2	PK	Horizontal
187.6	15.9	18.4	34.3	82.2	-47.9	PK	Horizontal
8021.0	37.9	12.2	50.1	82.2	-32.1	PK	Vertical
10868.5	37.4	17.4	54.8	82.2	-27.4	PK	Vertical
9423.5	39.8	13.6	53.4	82.2	-28.8	PK	Vertical
10928.0	37.6	17.5	55.1	82.2	-27.1	PK	Vertical
Top Channel ((2660.0MHz)						
211.9	14.9	18.7	33.6	82.2	-48.6	PK	Horizontal
363.2	8.7	23.6	32.3	82.2	-49.9	PK	Horizontal
133.3	16.4	15.8	32.2	82.2	-50.0	PK	Horizontal
187.6	16.2	18.4	34.6	82.2	-47.6	PK	Horizontal
9423.5	39.3	13.6	52.9	82.2	-29.3	PK	Vertical
11098.0	37.1	17.7	54.8	82.2	-27.4	PK	Vertical
8114.5	37.7	12.3	50.0	82.2	-32.2	PK	Vertical
10945.0	38.0	17.5	55.5	82.2	-26.7	PK	Vertical
h							



Product	AirScale Indoor Radio ASiR 5G-pRRH	Test Engineer	Peter Xu			
Test Site	AC1	Test Date	2019/12/22			
Test Item	External Antenna, 5G NR Band n41_16QAM, BW = 60MHz					

Frequency	Reading Level	Factor	Measure Level	Limit	Margin	Detector	Polarization		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
Bottom Channel (2526.0MHz)									
209.5	14.6	18.6	33.2	82.2	-49.0	PK	Horizontal		
345.7	9.0	23.3	32.3	82.2	-49.9	PK	Horizontal		
133.3	16.8	15.8	32.6	82.2	-49.6	PK	Horizontal		
189.6	13.6	18.6	32.2	82.2	-50.0	PK	Horizontal		
7587.5	38.8	11.8	50.6	82.2	-31.6	PK	Vertical		
11446.5	37.4	18.0	55.4	82.2	-26.8	PK	Vertical		
9500.0	39.9	13.6	53.5	82.2	-28.7	PK	Vertical		
11735.5	37.3	17.9	55.2	82.2	-27.0	PK	Vertical		
Middle Chann	el (2593.0MHz)								
210.9	15.2	18.6	33.8	82.2	-48.4	PK	Horizontal		
352.0	8.8	23.5	32.3	82.2	-49.9	PK	Horizontal		
132.8	17.0	15.8	32.8	82.2	-49.4	PK	Horizontal		
186.7	13.0	18.2	31.2	82.2	-51.0	PK	Horizontal		
8106.0	38.9	12.3	51.2	82.2	-31.0	PK	Vertical		
10970.5	37.4	17.5	54.9	82.2	-27.3	PK	Vertical		
7315.5	38.1	11.3	49.4	82.2	-32.8	PK	Vertical		
11531.5	36.8	18.0	54.8	82.2	-27.4	PK	Vertical		
Top Channel	(2660.0MHz)								
209.5	14.3	18.6	32.9	82.2	-49.3	PK	Horizontal		
362.7	8.9	23.6	32.5	82.2	-49.7	PK	Horizontal		
132.3	16.1	15.9	32.0	82.2	-50.2	PK	Horizontal		
191.0	14.7	18.7	33.4	82.2	-48.8	PK	Horizontal		
7307.0	37.8	11.3	49.1	82.2	-33.1	PK	Vertical		
10945.0	37.2	17.5	54.7	82.2	-27.5	PK	Vertical		
8046.5	39.5	12.3	51.8	82.2	-30.4	PK	Vertical		
11004.5	37.7	17.6	55.3	82.2	-26.9	PK	Vertical		
Jote: Measure Level (dBu\//m) - Reading Level (dBu\/) + Factor (dB)									





Product	AirScale Indoor Radio ASiR 5G-pRRH	Test Engineer	Peter Xu		
Test Site	AC1	Test Date	2019/12/22		
Test Item	Item External Antenna, 5G NR Band n41_64QAM, BW = 60MHz				

Frequency	Reading Level	Factor	Measure Level	Limit	Margin	Detector	Polarization		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
Bottom Channel (2526.0MHz)									
211.4	15.4	18.7	34.1	82.2	-48.2	PK	Horizontal		
351.1	8.8	23.4	32.2	82.2	-50.0	PK	Horizontal		
132.8	17.1	15.8	32.9	82.2	-49.3	PK	Horizontal		
192.0	14.2	18.8	33.0	82.2	-49.2	PK	Horizontal		
7528.0	39.2	11.7	50.9	82.2	-31.3	PK	Vertical		
11480.5	37.6	18.0	55.6	82.2	-26.6	PK	Vertical		
10860.0	37.4	17.4	54.8	82.2	-27.4	PK	Vertical		
13282.5	36.1	19.9	56.0	82.2	-26.2	PK	Vertical		
Middle Chann	el (2593.0MHz)					_			
210.4	14.3	18.6	32.9	82.2	-49.3	PK	Horizontal		
345.3	9.4	23.2	32.6	82.2	-49.6	PK	Horizontal		
190.5	14.5	18.7	33.2	82.2	-49.0	PK	Horizontal		
364.7	6.3	23.6	29.9	82.2	-52.3	PK	Horizontal		
8038.0	38.2	12.2	50.4	82.2	-31.8	PK	Vertical		
9423.5	39.8	13.6	53.4	82.2	-28.8	PK	Vertical		
8114.5	38.7	12.3	51.0	82.2	-31.2	PK	Vertical		
10554.0	37.5	16.9	54.4	82.2	-27.8	PK	Vertical		
Top Channel ((2660.0MHz)								
206.5	14.0	18.7	32.7	82.2	-49.5	PK	Horizontal		
344.8	8.7	23.2	31.9	82.2	-50.3	PK	Horizontal		
128.0	16.0	16.2	32.2	82.2	-50.0	PK	Horizontal		
193.9	11.5	18.8	30.3	82.2	-51.9	PK	Horizontal		
8063.5	38.3	12.3	50.6	82.2	-31.6	PK	Vertical		
11438.0	37.3	18.0	55.3	82.2	-26.9	PK	Vertical		
7902.0	38.4	12.1	50.5	82.2	-31.7	PK	Vertical		
9721.0	40.2	14.3	54.5	82.2	-27.7	PK	Vertical		
Note: Massura Laval (dRu)//m) - Reading Laval (dRu)/) + Factor (dR)									



Product	AirScale Indoor Radio ASiR 5G-pRRH	Test Engineer	Peter Xu		
Test Site	AC1	Test Date	2019/12/22		
Test Item	External Antenna, 5G NR Band n41_256QAM, BW = 60MHz				

_						_	_
Frequency	Reading Level	Factor	Measure Level	Limit	Margin	Detector	Polarization
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
Bottom Channel (2526.0MHz)							
210.9	14.4	18.6	33.0	82.2	-49.2	PK	Horizontal
360.8	9.3	23.6	32.9	82.2	-49.3	PK	Horizontal
191.5	14.8	18.8	33.6	82.2	-48.7	PK	Horizontal
343.8	7.9	23.2	31.1	82.2	-51.1	PK	Horizontal
7570.5	39.6	11.8	51.4	82.2	-30.8	PK	Vertical
11531.5	36.8	18.0	54.8	82.2	-27.4	PK	Vertical
10868.5	38.0	17.4	55.4	82.2	-26.8	PK	Vertical
14404.5	36.7	20.7	57.4	82.2	-24.8	PK	Vertical
Middle Chann	el (2593.0MHz)						
213.3	13.7	18.7	32.4	82.2	-49.8	PK	Horizontal
354.0	9.3	23.5	32.8	82.2	-49.4	PK	Horizontal
132.8	16.0	15.8	31.8	82.2	-50.4	PK	Horizontal
188.1	12.4	18.4	30.8	82.2	-51.4	PK	Horizontal
8029.5	38.2	12.2	50.4	82.2	-31.8	PK	Vertical
10435.0	38.4	16.7	55.1	82.2	-27.1	PK	Vertical
7511.0	38.4	11.7	50.1	82.2	-32.1	PK	Vertical
11421.0	36.9	18.0	54.9	82.2	-27.3	PK	Vertical
Top Channel ((2660.0MHz)						
188.6	14.6	18.5	33.1	82.2	-49.1	PK	Horizontal
343.3	8.3	23.2	31.5	82.2	-50.7	PK	Horizontal
132.8	17.1	15.8	32.9	82.2	-49.3	PK	Horizontal
192.0	14.2	18.8	33.0	82.2	-49.2	PK	Horizontal
7213.5	38.5	11.1	49.6	82.2	-32.6	PK	Vertical
10418.0	38.3	16.6	54.9	82.2	-27.3	PK	Vertical
7409.0	39.2	11.5	50.7	82.2	-31.5	PK	Vertical
11506.0	37.7	18.0	55.7	82.2	-26.5	PK	Vertical
Note: Macoure Lovel (dDuV/m) - Danding Lovel (dDuV) - Factor (dD)							

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

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7. CONCLUSION

The data collected relate only the item(s) tested and show that the unit is compliance with FCC Rules.

The End