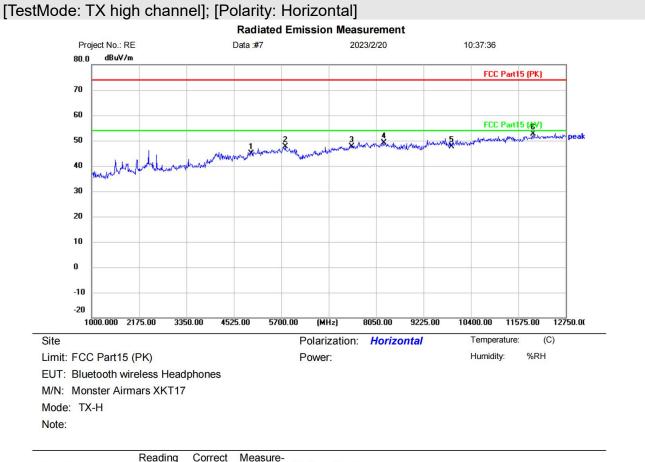


No.	Mk	. Freq.	Level	Factor	ment	Limit	Over			
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment	
1		3455.750	43.92	-1.42	42.50	74.00	-31.50	peak		
2		4882.000	40.07	4.37	44.44	74.00	-29.56	peak		
3		7323.000	38.51	8.21	46.72	74.00	-27.28	peak		
4		7826.750	41.79	8.81	50.60	74.00	-23.40	peak		
5		9764.000	38.14	11.30	49.44	74.00	-24.56	peak		
6	*	11528.000	39.15	13.68	52.83	74.00	-21.17	peak		

(Reference Only

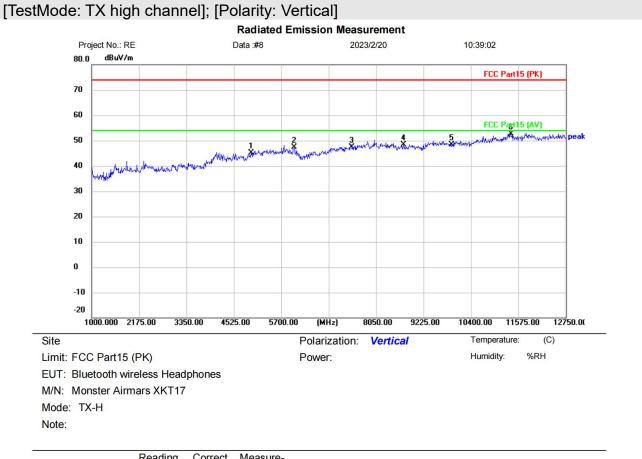




No.	Mk.	Freq.	Level	Factor	ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	39.34	5.42	44.76	74.00	-29.24	peak	
2		5794.000	40.93	6.77	47.70	74.00	-26.30	peak	
3		7440.000	39.11	8.48	47.59	74.00	-26.41	peak	
4		8249.750	40.24	9.01	49.25	74.00	-24.75	peak	
5		9920.000	35.98	11.69	47.67	74.00	-26.33	peak	
6	*	11939.250	38.71	13.87	52.58	74.00	-21.42	peak	

(Reference Only





No.	Mk	. Freq.	Level	Factor	ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	39.69	5.42	45.11	74.00	-28.89	peak	
2		6017.250	43.43	3.97	47.40	74.00	-26.60	peak	
3		7440.000	38.97	8.48	47.45	74.00	-26.55	peak	
4		8731.500	39.22	9.23	48.45	74.00	-25.55	peak	
5		9920.000	36.74	11.69	48.43	74.00	-25.57	peak	
6	*	11387.000	39.08	13.63	52.71	74.00	-21.29	peak	

(Reference Only



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Remark:

- 1. Final Level =Receiver Read level + Correct factor
- 2. Correct factor = Antenna Factor + Cable Loss Preamplifier Factor
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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16 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

Test Standard	47 CFR Part 15, Subpart C 15.247					
Test Method	ANSI C63.10 (2013) Section 6.10.5					
Test Mode (Pre-Scan)	ТХ					
Test Mode (Final Test)	ТХ					
Tester	Jozu					
Temperature	25 ℃					
Humidity	60%					

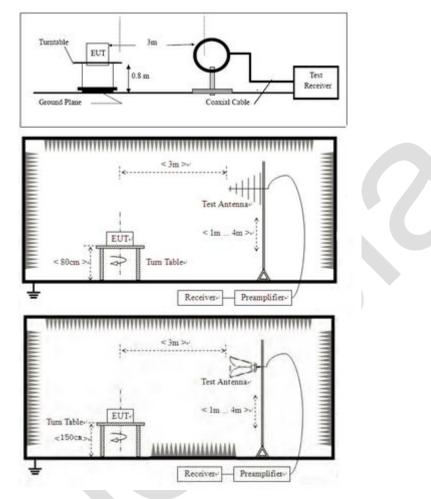
16.1 LIMITS

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



16.2 BLOCK DIAGRAM OF TEST SETUP



16.3 PROCEDURE

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.



h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

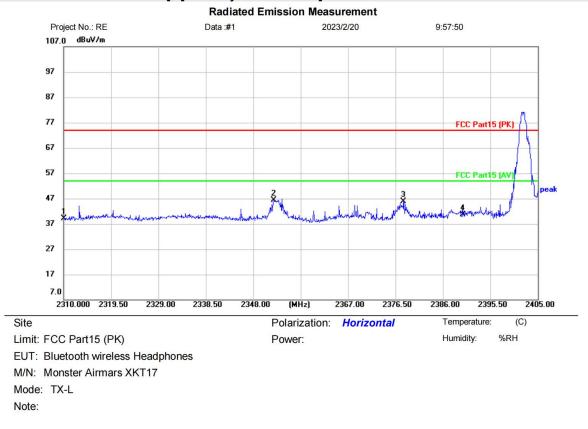
j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



16.4 TEST DATA



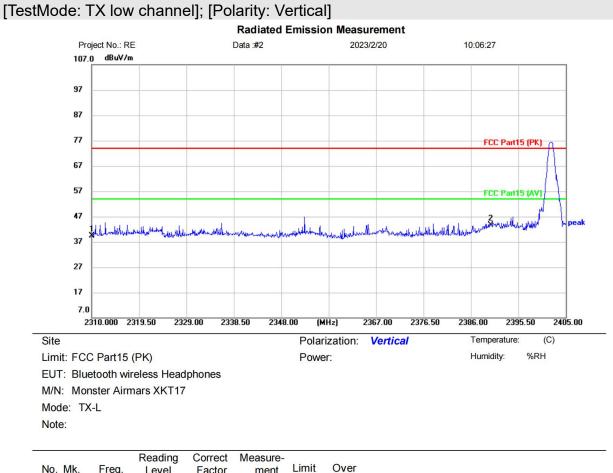
[TestMode: TX low channel]; [Polarity: Horizontal]

No. N	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment	
1		2310.000	43.30	-4.27	39.03	74.00	-34.97	peak		
2	*	2352.085	50.51	-4.03	46.48	74.00	-27.52	peak		
3		2378.115	49.71	-3.89	45.82	74.00	-28.18	peak		
4		2390.000	44.42	-3.82	40.60	74.00	-33.40	peak		

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

(Reference Only

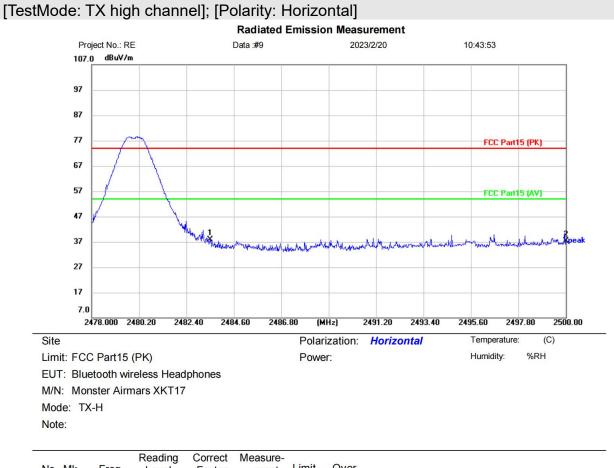




No. Mk.	Freq.	Level	Factor	ment	Limit	Over			
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment	
1	2310.000	43.73	-4.27	39.46	74.00	-34.54	peak		
2 *	2390.000	47.34	-3.82	43.52	74.00	-30.48	peak		

(Reference Only

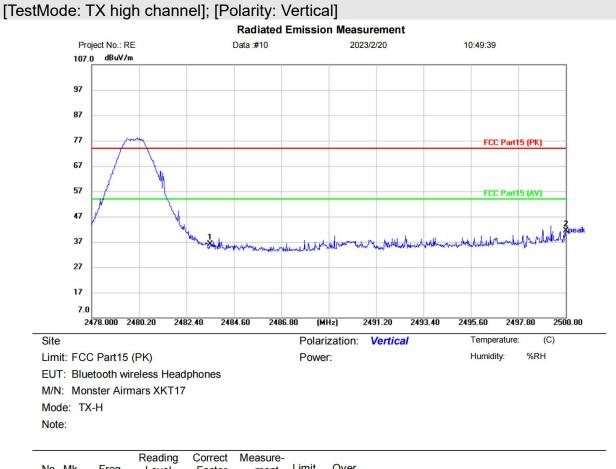




No.	Mk.	Freq.	Level	Factor	ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	41.74	-3.96	37.78	74.00	-36.22	peak	
2		2500.000	41.30	-4.00	37.30	74.00	-36.70	peak	

(Reference Only





No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	40.06	-3.96	36.10	74.00	-37.90	peak	
2	*	2500.000	45.42	-4.00	41.42	74.00	-32.58	peak	

(Reference Only



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Remark:

- 1. Final Level =Receiver Read level + Correct factor
- 2. Correct factor = Antenna Factor + Cable Loss Preamplifier Factor
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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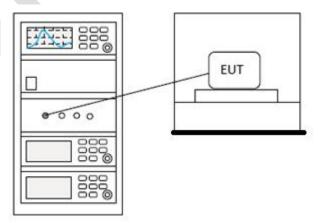
Test Standard	47 CFR Part 15, Subpart C 15.247					
Test Method	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2					
Test Mode (Pre-Scan)	ТХ					
Test Mode (Final Test)	ТХ					
Tester	Jozu					
Temperature	25°C					
Humidity	60%					

17 CONDUCTED BAND EDGES MEASUREMENT

17.1 LIMITS

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

17.2 BLOCK DIAGRAM OF TEST SETUP





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17.3 TEST DATA



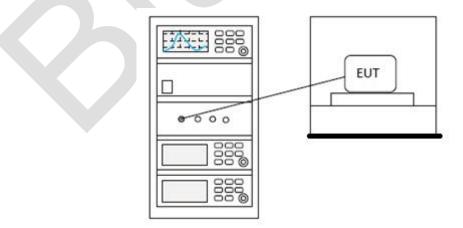
18 DWELL TIME

Test Standard	47 CFR Part 15, Subpart C 15.247						
Test Method	ANSI C63.10 (2013) Section 7.8.4						
Test Mode (Pre-Scan)	ТХ						
Test Mode (Final Test)	ТХ						
Tester	Jozu						
Temperature	25°C						
Humidity	60%						

18.1 LIMITS

Frequency(MHz)	Limit				
	0.4S within a 20S period(20dB				
002 028	bandwidth<250kHz)				
902-928	0.4S within a 10S period(20dB				
	bandwidth≥250kHz)				
	0.4S within a period of 0.4S multiplied by the				
2400-2483.5	number				
	of hopping channels				
5725-5850	0.4S within a 30S period				

18.2 BLOCK DIAGRAM OF TEST SETUP





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18.3 TEST DATA



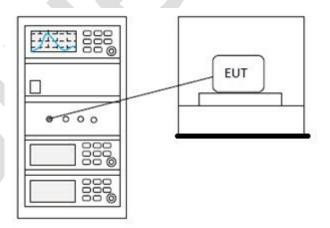
19 HOPPING CHANNEL NUMBER

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.3
Test Mode (Pre-Scan)	ТХ
Test Mode (Final Test)	ТХ
Tester	Jozu
Temperature	25 ℃
Humidity	60%

19.1 LIMITS

Frequency range(MHz)	Number of hopping channels (minimum)	
002.020	50 for 20dB bandwidth <250kHz	
902-928	25 for 20dB bandwidth ≥250kHz	
2400-2483.5	15	
5725-5850	75	

19.2 BLOCK DIAGRAM OF TEST SETUP



19.3 TEST DATA



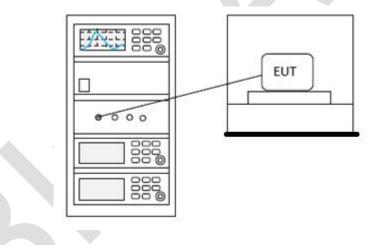
20 CARRIER FREQUENCIES SEPARATION

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.2
Test Mode (Pre-Scan)	ТХ
Test Mode (Final Test)	ТХ
Tester	Jozu
Temperature	25 ℃
Humidity	60%

20.1 LIMITS

Limit: 2/3 of the 20dB bandwidth base on the transmission power is less than 0.125W

20.2 BLOCK DIAGRAM OF TEST SETUP



20.3 TEST DATA



21 APPENDIX

Maximum Conducted Output Power

Condition	Mode	Frequency	Antenna	Conducted Power	Limit	Verdict
		(MHz)		(dBm)	(dBm)	
NVNT	1-DH1	2402	Ant1	0.858	21	Pass
NVNT	1-DH1	2441	Ant1	0.655	21	Pass
NVNT	1-DH1	2480	Ant1	0.499	21	Pass
NVNT	2-DH1	2402	Ant1	1.55	-21	Pass
NVNT	2-DH1	2441	Ant1	1.326	21	Pass
NVNT	2-DH1	2480	Ant1	1.105	21	Pass

Power NVNT 1-DH1 2402MHz Ant1



Power NVNT 1-DH1 2441MHz Ant1





Power NVNT 1-DH1 2480MHz Ant1

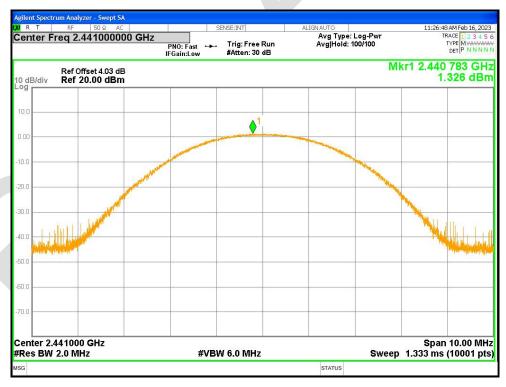


Power NVNT 2-DH1 2402MHz Ant1





Power NVNT 2-DH1 2441MHz Ant1



Power NVNT 2-DH1 2480MHz Ant1



T RF 50 Ω AC	SENSE:INT	ALIGN AUTO	11:32:40 AM Feb 16, 2023
ter Freq 2.480000000 G	HZ PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N N
Ref Offset 4.08 dB B/div Ref 20.00 dBm		M	kr1 2.479 725 GHz 1.105 dBm
	1		
	-		
ter 2.480000 GHz s BW 2.0 MHz	#VBW 6.0 MHz	Sween	Span 10.00 MHz 1.333 ms (10001 pts)
		Sweep	1.333 His (10001 pts)



-20dB Bandwidth

Condition	Mode	Frequency	Antenna	-20 dB Bandwidth	Limit -20 dB	Verdict
		(MHz)		(MHz)	Bandwidth (MHz)	
NVNT	1-DH1	2402	Ant1	0.866	0	Pass
NVNT	1-DH1	2441	Ant1	0.922	0	Pass
NVNT	1-DH1	2480	Ant1	0.964	0	Pass
NVNT	2-DH1	2402	Ant1	1.25	0	Pass
NVNT	2-DH1	2441	Ant1	1.249	0	Pass
NVNT	2-DH1	2480	Ant1	1.269	0	Pass

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1





-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1





-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



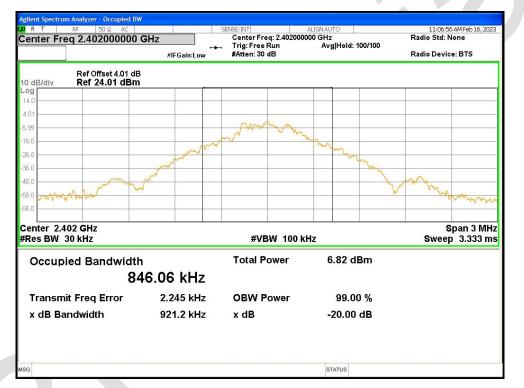
gilent Spectrum Analyzer - Occupied BW G R T RF 50 Ω AC	/	SENSE:INT	ALIGN AUTO	11:32:52 AM Feb 16, 2023
enter Freq 2.48000000	GHz	Center Freq: 2.4800000 Trig: Free Run		Radio Std: None
	#IFGain:Low	#Atten: 30 dB	3620	Radio Device: BTS
Ref Offset 4.08 dB 0 dB/div Ref 24.08 dBm				Mkr3 2.480633 GHz -24.961 dBm
og				
14.1		A1		
.92		12		
5.9 ^2	mm	my mun	mon	
5.9				The second secon
5.9				
5.9 mm W				www.www.
5.9				
5.9				
enter 2.48 GHz Res BW 30 kHz		#VBW 100 k	Hz	Span 2 MHz Sweep 2.667 ms
Occupied Bandwidth	1	Total Power	6.07 dBm	-
1.1	1655 MHz			
Transmit Freq Error	-1.341 kHz	OBW Power	99.00 %	
x dB Bandwidth	1.269 MHz	x dB	-20.00 dB	
~			CTATUS	



Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.84606
NVNT	1-DH1	2441	Ant1	0.84436
NVNT	1-DH1	2480	Ant1	0.85365
NVNT	2-DH1	2402	Ant1	1.1627
NVNT	2-DH1	2441	Ant1	1.1641
NVNT	2-DH1	2480	Ant1	1.1653

OBW NVNT 1-DH1 2402MHz Ant1



OBW NVNT 1-DH1 2441MHz Ant1





OBW NVNT 1-DH1 2480MHz Ant1



OBW NVNT 2-DH1 2402MHz Ant1





OBW NVNT 2-DH1 2441MHz Ant1



OBW NVNT 2-DH1 2480MHz Ant1



R T RF 50 Ω AC enter Freq 2.480000000	GHz	Center Freq: 2.4800000	ALIGN AUTO 100 GHz Avg Hold: 100/100	11:32:46 AM Feb 16, 2023 Radio Std: None
	#IFGain:Low	#Atten: 30 dB		Radio Device: BTS
Ref Offset 4.08 dB I0 dB/div Ref 24.08 dBm				
.og 14.1				
4.08				
5.92		Anton	- m	
15.9	and when the	me	a something	
25.9	- Art		my .	8
35.9	ma		han	mumpon
45.9 Am Mar Mar M				James warden w
65.9				
Center 2.48 GHz #Res BW 30 kHz		#VBW 100 ki	Hz	Span 3 MHz Sweep 3.333 ms
Occupied Bandwidth	1	Total Power	5.91 dBm	
1.1	1653 MHz			
Transmit Freq Error	416 Hz	OBW Power	99.00 %	
x dB Bandwidth	1.235 MHz	x dB	-20.00 dB	
sg			STATUS	