

Report No.: SZEM180700654901 Page: 1 of 85

# Appendix B

#### WCDMA BAND II & IV & V



Report No.: SZEM180700654901 Page: 2 of 85

#### CONTENT

	Page
1. EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA	5
1.1. Test Result	5
2. PEAK-TO-AVERAGE RATIO	6
2.1. Test Result	6
2.2. Test Plots	6
3. MODULATION CHARACTERISTICS	
3.1. For WCDMA	
3.1.1. Test BAND = WCDMA BAND II	
3.1.1.1. Test Mode = UMTS/TM1	
3.1.1.1.1. Test Channel = MCH	
3.1.2. Test BAND = WCDMA BAND IV	
3.1.2.1. Test Mode = UMTS/TM1	
3.1.2.1.1. Test Channel = MCH	
3.1.3. Test BAND = WCDMA BAND V	
3.1.3.1. Test Mode = UMTS /TM1	
3.1.3.1.1. Test Channel = MCH	
4. 26dB Bandwidth and Occupied Bandwidth	13
4.1. Test Result	
4.2. Test Plots	
5. BAND EDGE COMPLIANCE	
5.1. Test Plots	
6. Spurious Emission at Antenna Terminal	21
7.1. Test Plots	21
7. FIELD STRENGTH OF SPURIOUS RADIATION	46
8.1. For WCDMA-Main Antenna	46
8.1.1. Test Band = WCDMA BAND II	46
8.1.1.1. Test Channel = LCH_H	46
8.1.1.2. Test Channel = LCH_V	47
8.1.1.3. Test Channel = MCH_H	47
8.1.1.4. Test Channel = MCH_V	48
8.1.1.5. Test Channel = HCH_H	49
8.1.1.6. Test Channel = HCH_V	49
8.1.2. Test Band = WCDMA BAND IV	50



Report No.: SZEM180700654901 Page: 3 of 85

	8.1.2.1. Test Channel = LCH_H	50
	8.1.2.2. Test Channel = LCH_V	51
	8.1.2.3. Test Channel = MCH_H	51
	8.1.2.4. Test Channel = MCH_V	52
	8.1.2.5. Test Channel = HCH_H	52
	8.1.2.6. Test Channel = HCH_V	53
	8.1.3. Test Band = WCDMA BAND V	54
	8.1.3.1. Test Channel = LCH_H	54
	8.1.3.2. Test Channel = LCH_V	55
	8.1.3.3. Test Channel = MCH_H	55
	8.1.3.4. Test Channel = MCH_V	56
	8.1.3.5. Test Channel = HCH_H	56
	8.1.3.6. Test Channel = HCH_V	57
	8.2. For WCDMA-Second Antenna	58
	8.2.1. Test Band = WC DMA BAND II	58
	8.2.1.1. Test Channel = LCH_H	58
	8.2.1.2. Test Channel = LCH_V	59
	8.2.1.3. Test Channel = MCH_H	59
	8.2.1.4. Test Channel = MCH_V	60
	8.2.1.5. Test Channel = HCH_H	60
	8.2.1.6. Test Channel = HCH_V	61
	8.2.2. Test Band = WCDMA BAND IV	62
	8.2.2.1. Test Channel = LCH_H	62
	8.2.2.2. Test Channel = LCH_V	63
	8.2.2.3. Test Channel = MCH_H	63
	8.2.2.4. Test Channel = MCH_V	64
	8.2.2.5. Test Channel = HCH_H	64
	8.2.2.6. Test Channel = HCH_V	65
	8.2.3. Test Band = WCDMA BAND V	66
	8.2.3.1. Test Channel = LCH_H	66
	8.2.3.2. Test Channel = LCH_V	67
	8.2.3.3. Test Channel = MCH_H	
	8.2.3.4. Test Channel = MCH_V	68
	8.2.3.5. Test Channel = HCH_H	68
	8.2.3.6. Test Channel = HCH_V	69
8	. Frequency Stability	70



Report No.: SZEM180700654901 Page: 4 of 85

9.1.	Frequency Vs Voltage	.70
9.2.	Frequency Vs Temperature	.71



Report No.: SZEM180700654901 Page: 5 of 85

#### 1. Effective (Isotropic) Radiated Power Output Data

#### 1.1.Test Result

BAND	Channel	Power(dBm)	EIRP(dBm)	Limit(dBm)	Verdict
BAND II	9262	23.21	20.60	33.00	PASS
BAND II	9400	23.23	20.62	33.00	PASS
BAND II	9538	23.11	20.50	33.00	PASS
BAND IV	1312	23.13	22.85	30.00	PASS
BAND IV	1413	23.14	22.86	30.00	PASS
BAND IV	1513	23.05	22.77	30.00	PASS

BAND	Channel	Power(dBm)	ERP(dBm)	Limit(dBm)	Verdict
BAND V	4132	23.16	17.6	38.45	PASS
BAND V	4182	23.05	17.49	38.45	PASS
BAND V	4233	23.12	17.56	38.45	PASS

Note:

a: For getting the ERP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

EIRP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBi]

ERP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBd] b: SGP=Signal Generator Level



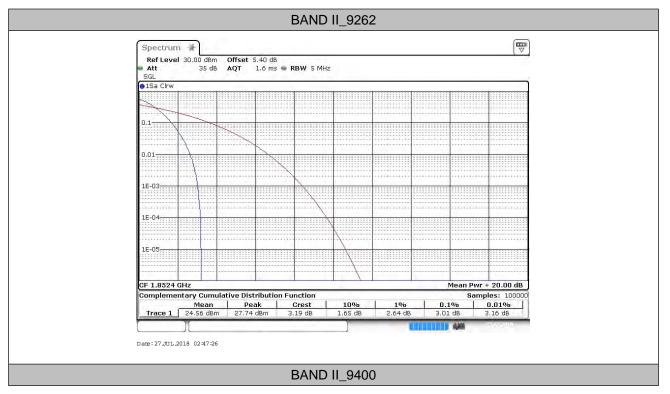
Report No.: SZEM180700654901 Page: 6 of 85

#### 2. Peak-to-Average Ratio

#### 2.1.Test Result

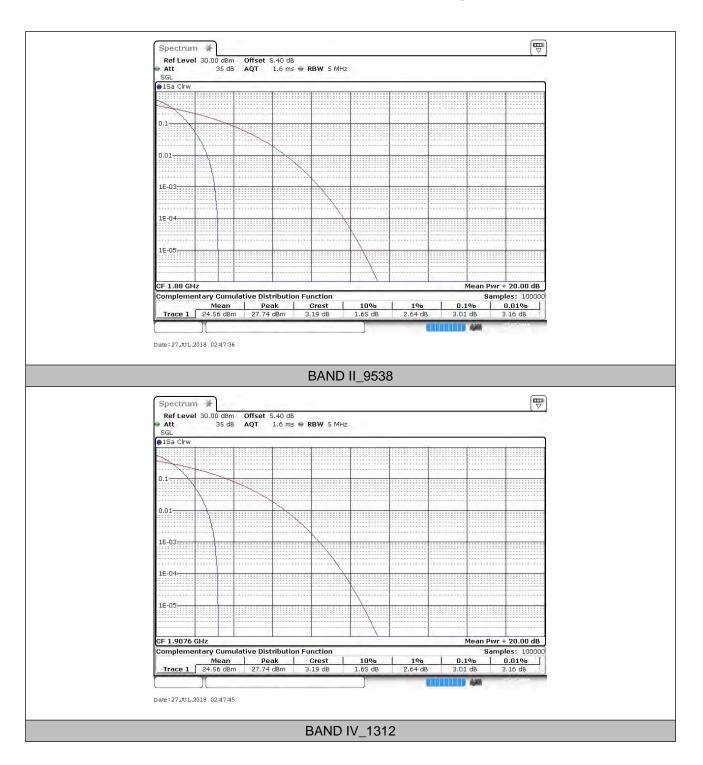
BAND	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
BAND II	9262	3.01	13	PASS
BAND II	9400	3.01	13	PASS
BAND II	9538	3.01	13	PASS
BAND IV	1312	3.10	13	PASS
BAND IV	1413	3.10	13	PASS
BAND IV	1513	3.10	13	PASS
BAND V	4132	3.19	13	PASS
BAND V	4182	3.19	13	PASS
BAND V	4233	3.19	13	PASS

#### 2.2. Test Plots



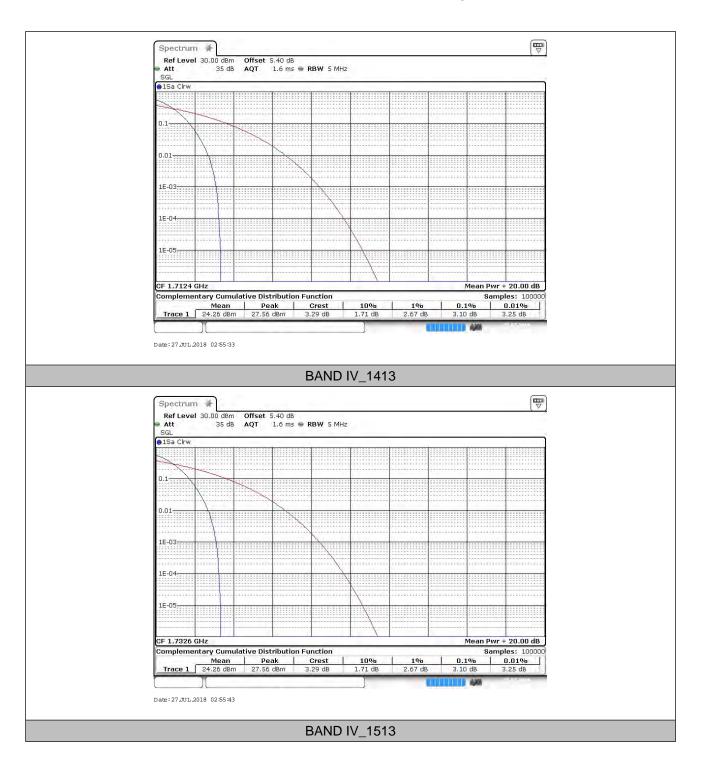


Report No.: SZEM180700654901 Page: 7 of 85



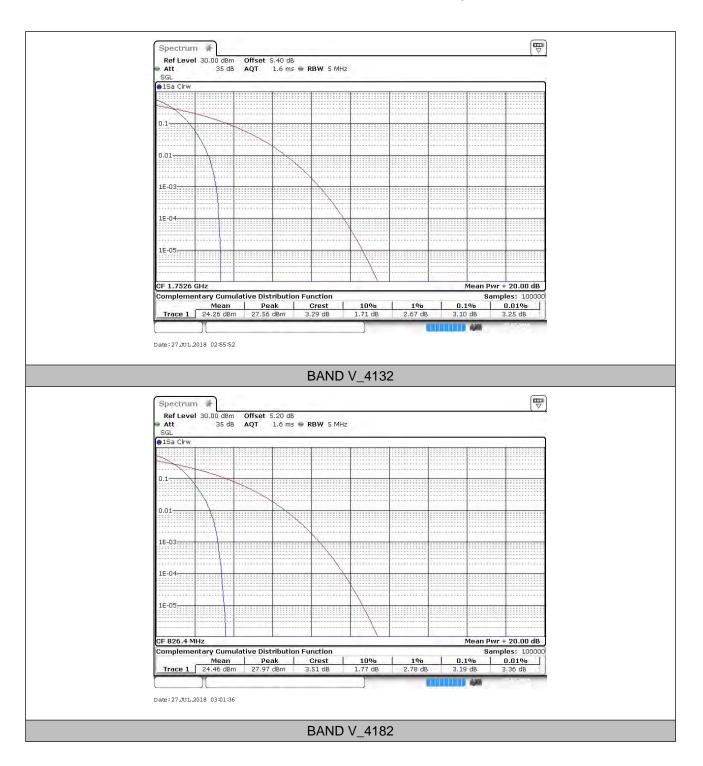


Report No.: SZEM180700654901 Page: 8 of 85



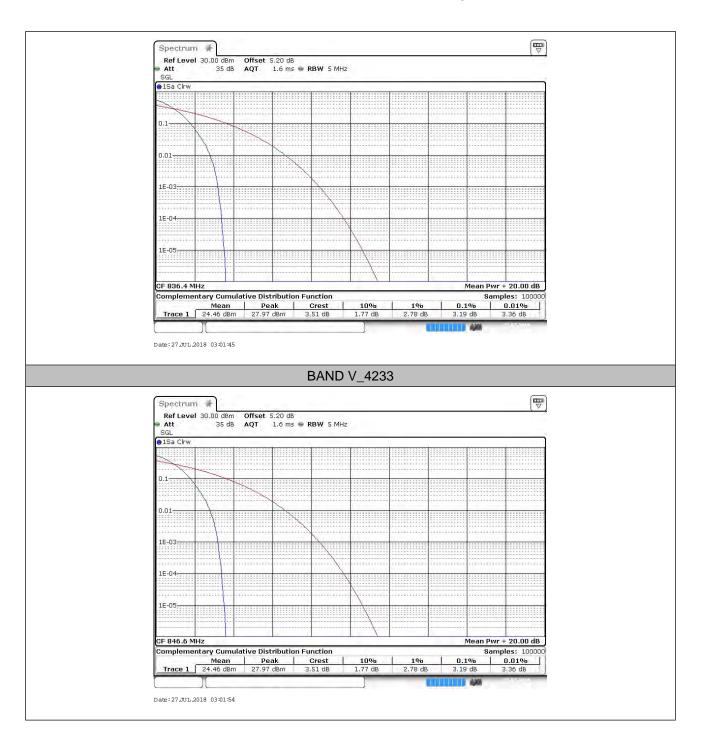


Report No.: SZEM180700654901 Page: 9 of 85





Report No.: SZEM180700654901 Page: 10 of 85





Report No.: SZEM180700654901 Page: 11 of 85

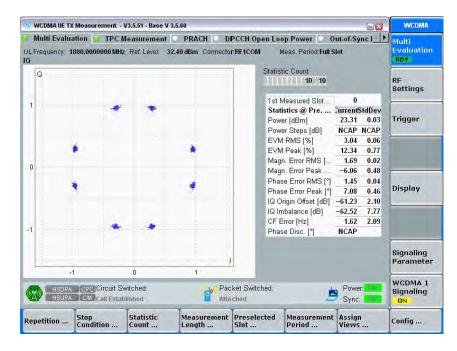
#### 3. Modulation Characteristics

Part I - Test Plots

- 3.1. For WCDMA
- 3.1.1. Test BAND = WCDMA BAND II

#### 3.1.1.1. Test Mode = UMTS/TM1

#### 3.1.1.1.1. Test Channel = MCH



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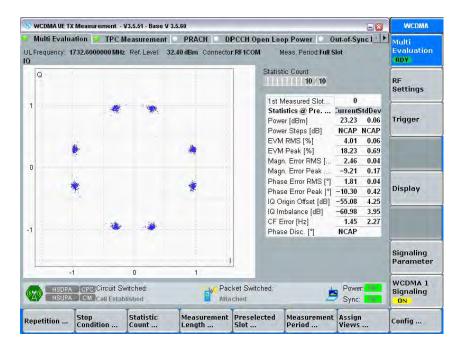


Report No.: SZEM180700654901 Page: 12 of 85

#### 3.1.2. Test BAND = WCDMA BAND IV

#### 3.1.2.1. Test Mode = UMTS/TM1

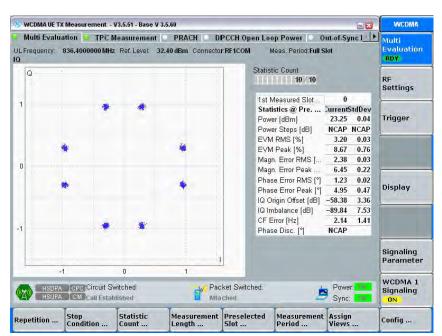
#### 3.1.2.1.1. Test Channel = MCH



#### 3.1.3. Test BAND = WCDMA BAND V

#### 3.1.3.1. Test Mode = UMTS /TM1

#### 3.1.3.1.1. Test Channel = MCH



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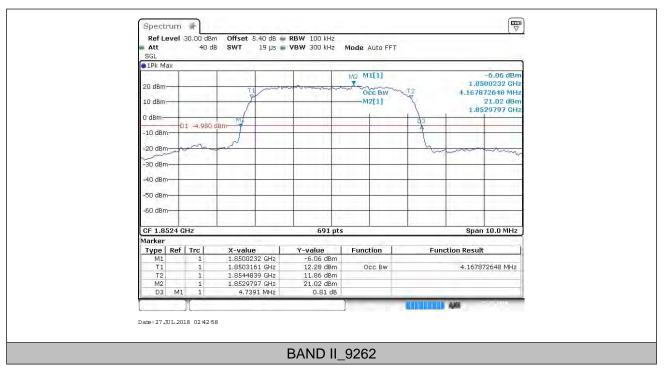
Report No.: SZEM180700654901 Page: 13 of 85

#### 4. 26dB Bandwidth and Occupied Bandwidth

#### 4.1.Test Result

BAND	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
BAND II	9262	4167.9	4739		PASS
BAND II	9400	4153.4	4739		PASS
BAND II	9538	4153.4	4725		PASS
BAND IV	1312	4153.4	4739		PASS
BAND IV	1413	4153.4	4739		PASS
BAND IV	1513	4167.9	4725		PASS
BAND V	4132	4153.4	4725		PASS
BAND V	4182	4167.9	4725		PASS
BAND V	4233	4153.4	4725		PASS

#### 4.2. Test Plots



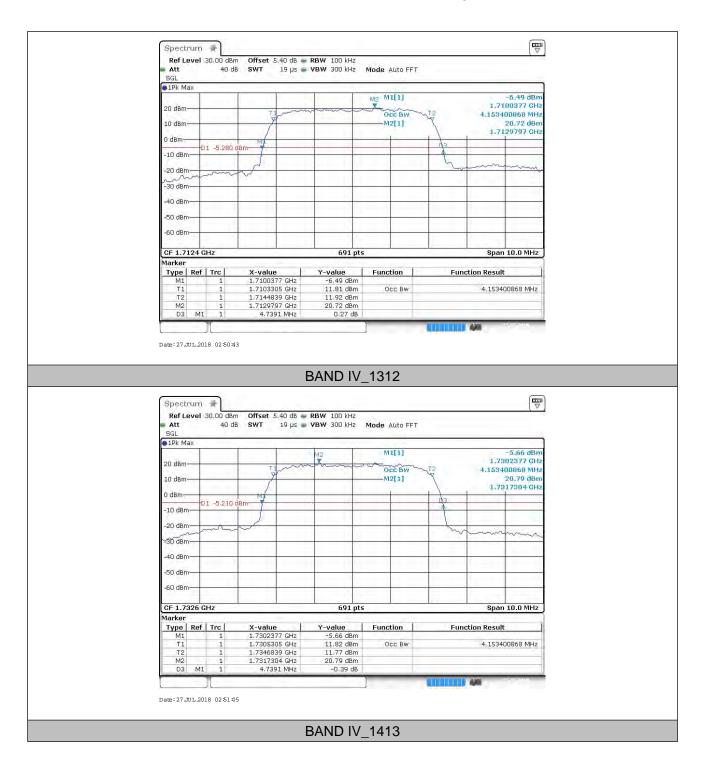


Report No.: SZEM180700654901 Page: 14 of 85



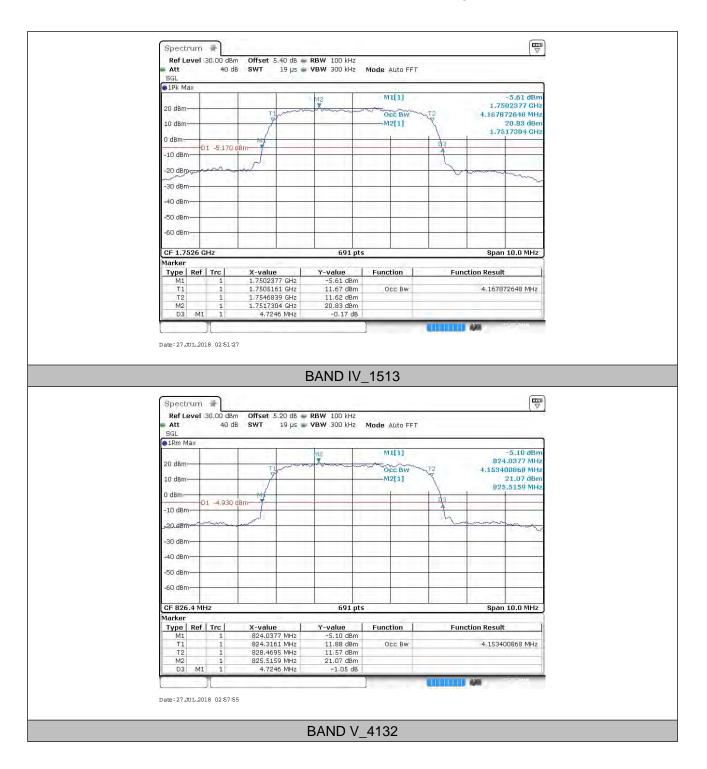


Report No.: SZEM180700654901 Page: 15 of 85





Report No.: SZEM180700654901 Page: 16 of 85





Report No.: SZEM180700654901 Page: 17 of 85





Report No.: SZEM180700654901 Page: 18 of 85

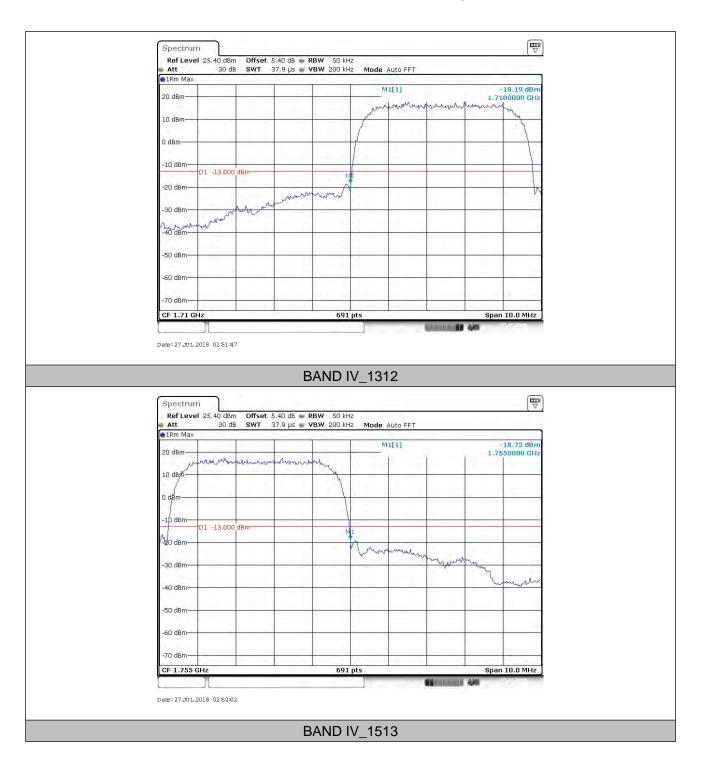
#### 5. Band Edge Compliance

#### 5.1.Test Plots





Report No.: SZEM180700654901 Page: 19 of 85





Report No.: SZEM180700654901 Page: 20 of 85



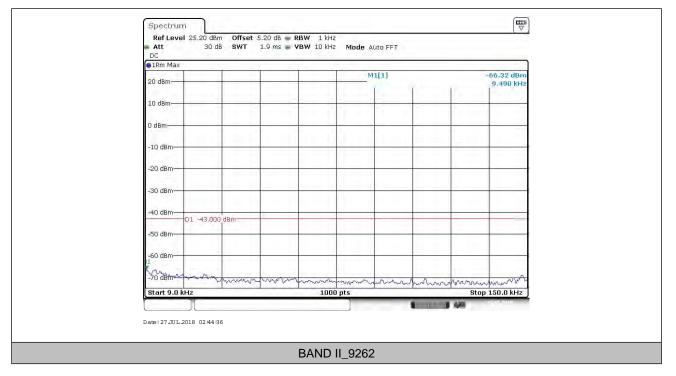


Report No.: SZEM180700654901 Page: 21 of 85

#### 6. Spurious Emission at Antenna Terminal

NOTE1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of < RBW/2 so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = k \* (Span / RBW)" with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB. NOTE2: only the worst case data displayed in this report.

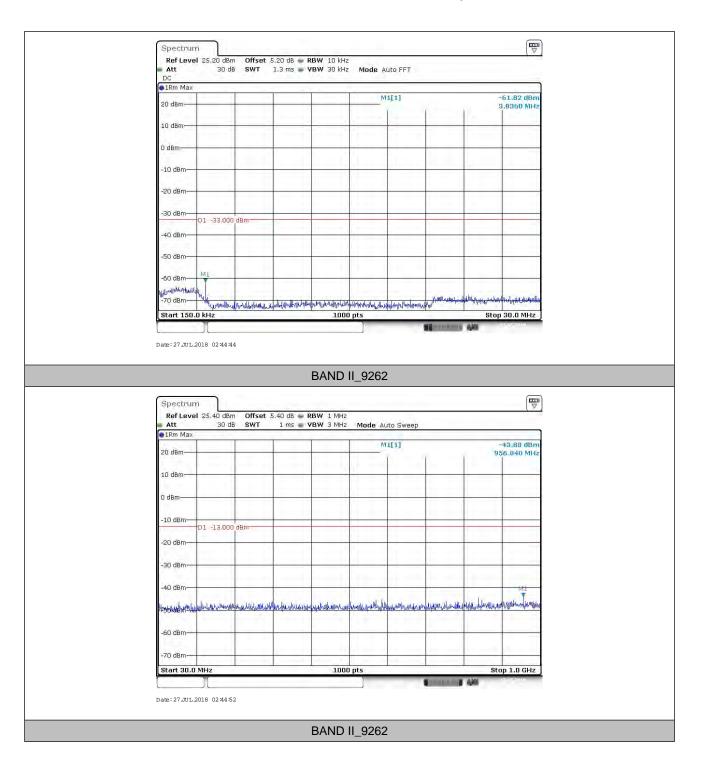
#### 7.1.Test Plots



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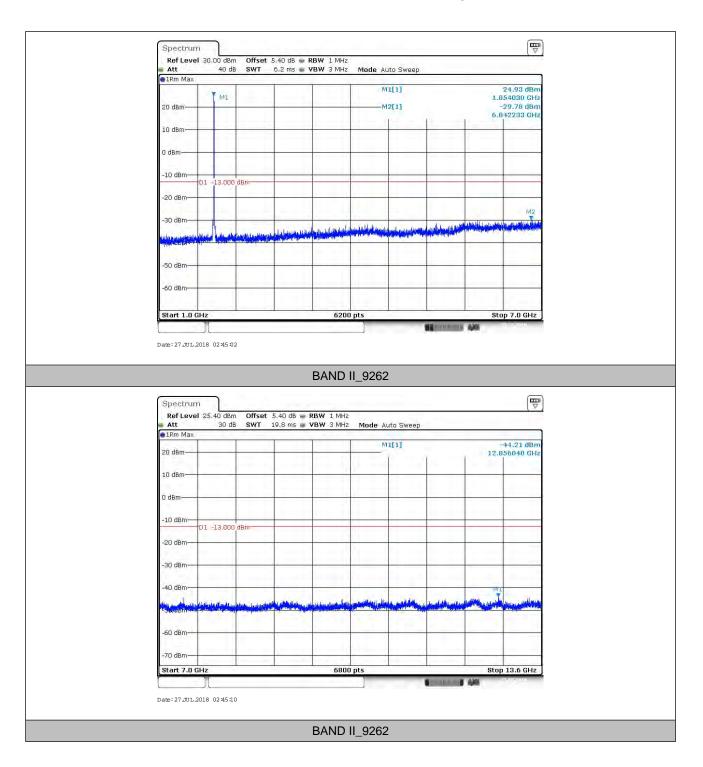


Report No.: SZEM180700654901 Page: 22 of 85



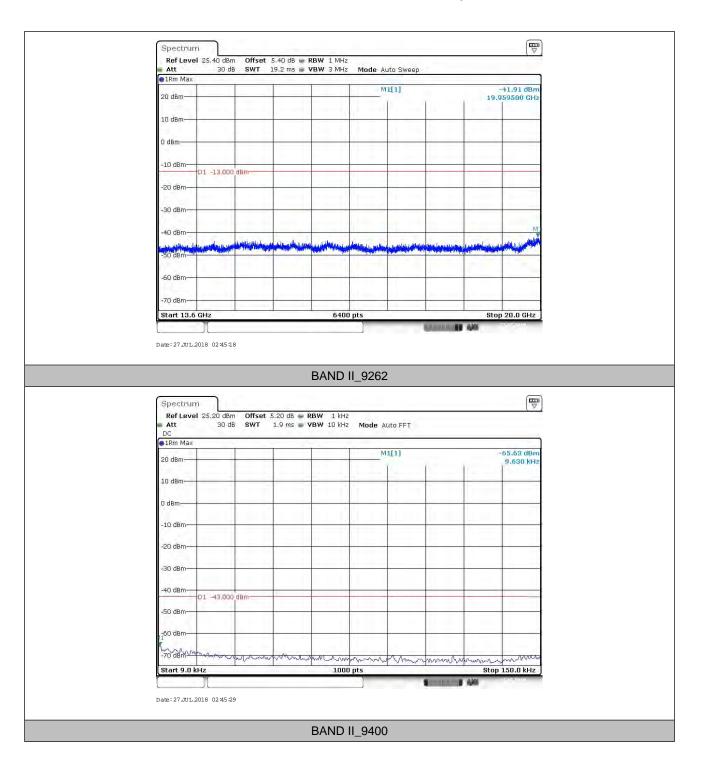


Report No.: SZEM180700654901 Page: 23 of 85



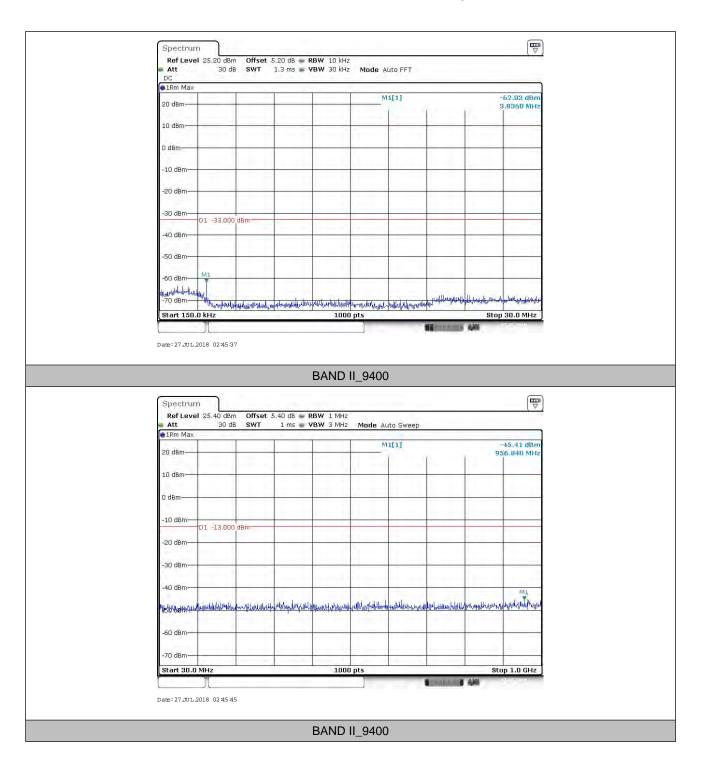


Report No.: SZEM180700654901 Page: 24 of 85



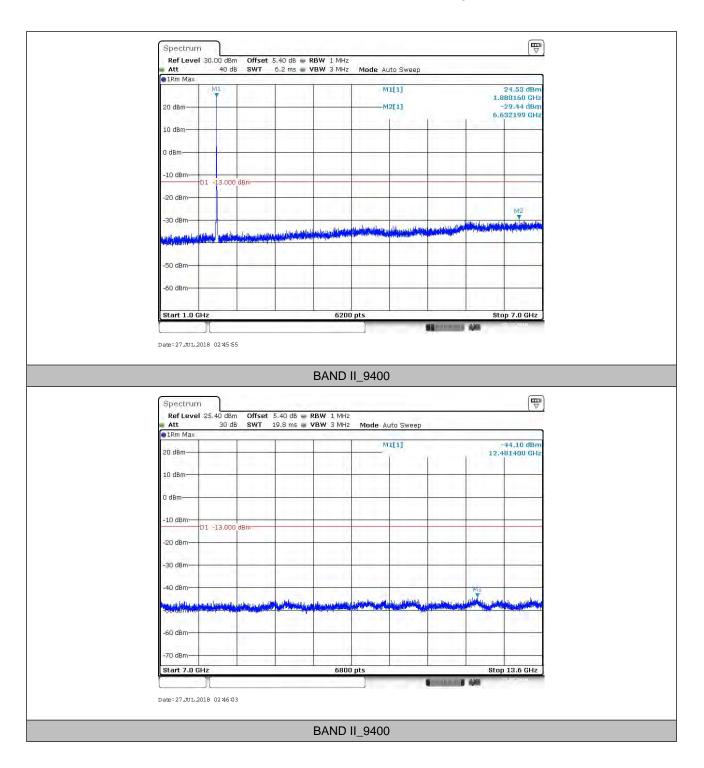


Report No.: SZEM180700654901 Page: 25 of 85



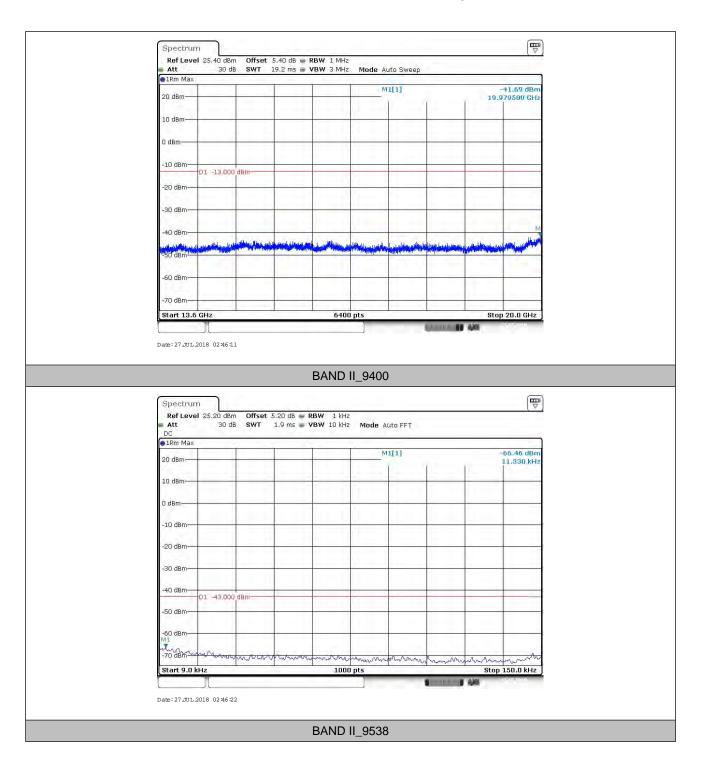


Report No.: SZEM180700654901 Page: 26 of 85



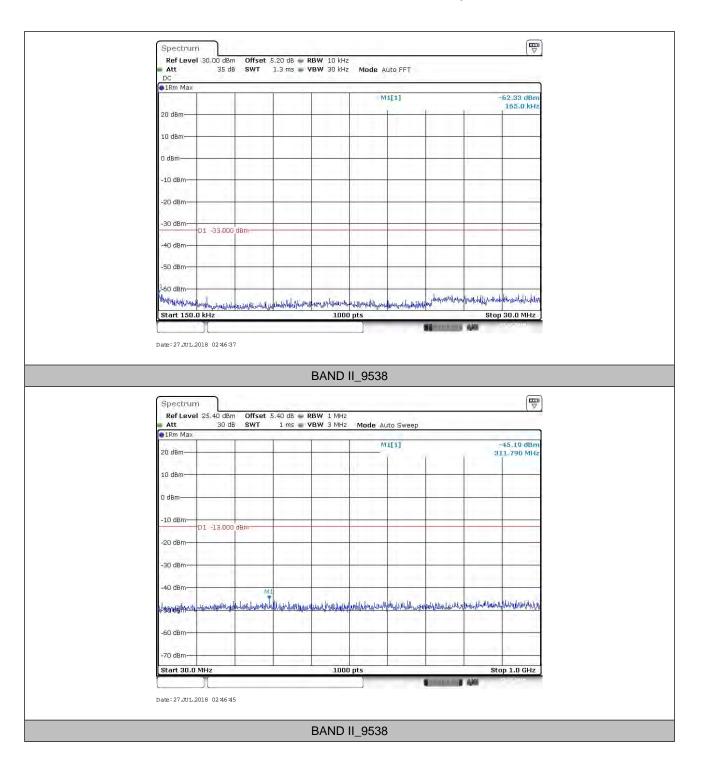


Report No.: SZEM180700654901 Page: 27 of 85



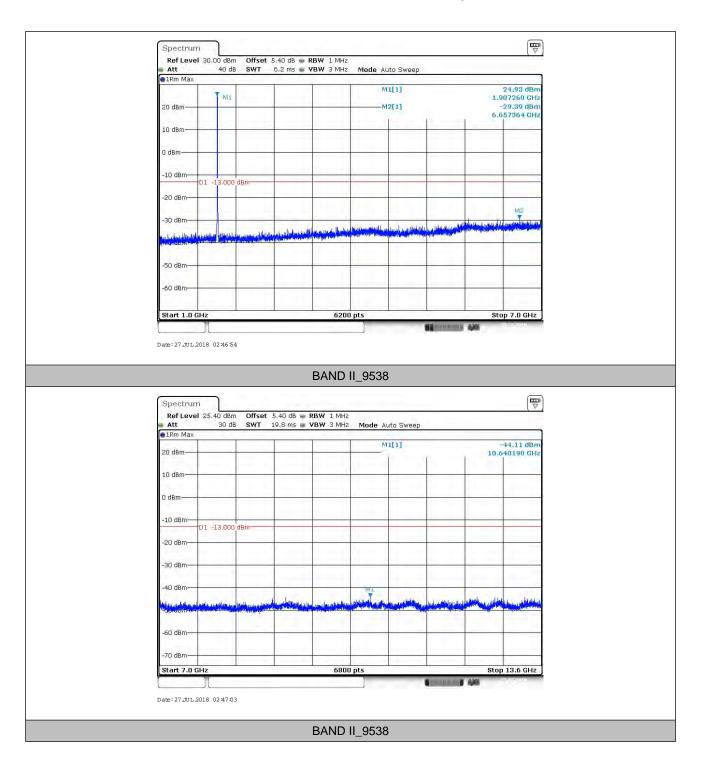


Report No.: SZEM180700654901 Page: 28 of 85



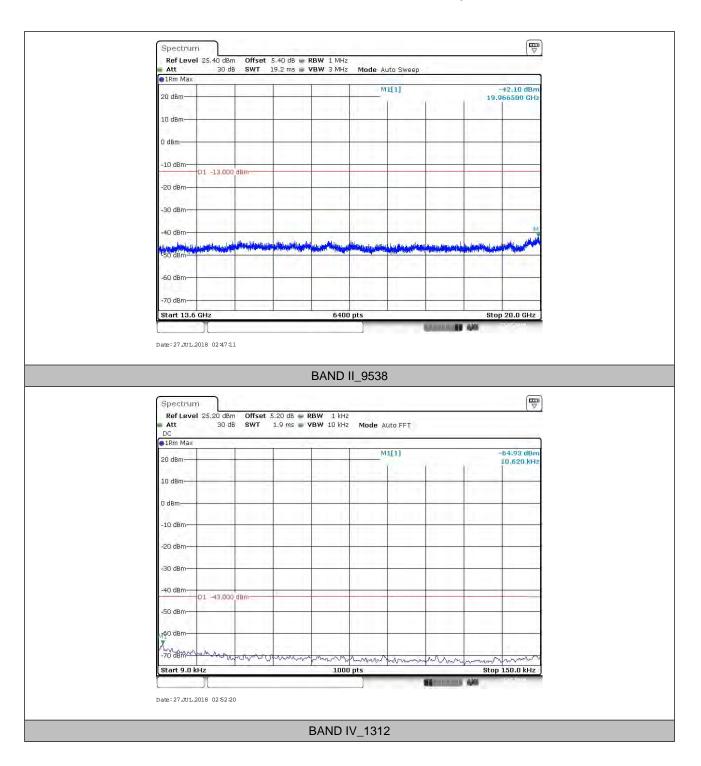


Report No.: SZEM180700654901 Page: 29 of 85



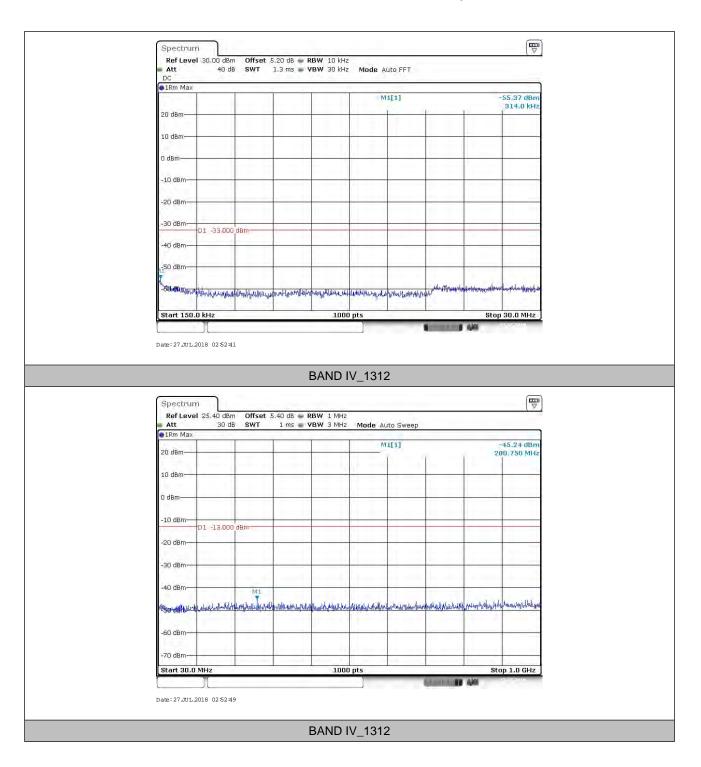


Report No.: SZEM180700654901 Page: 30 of 85



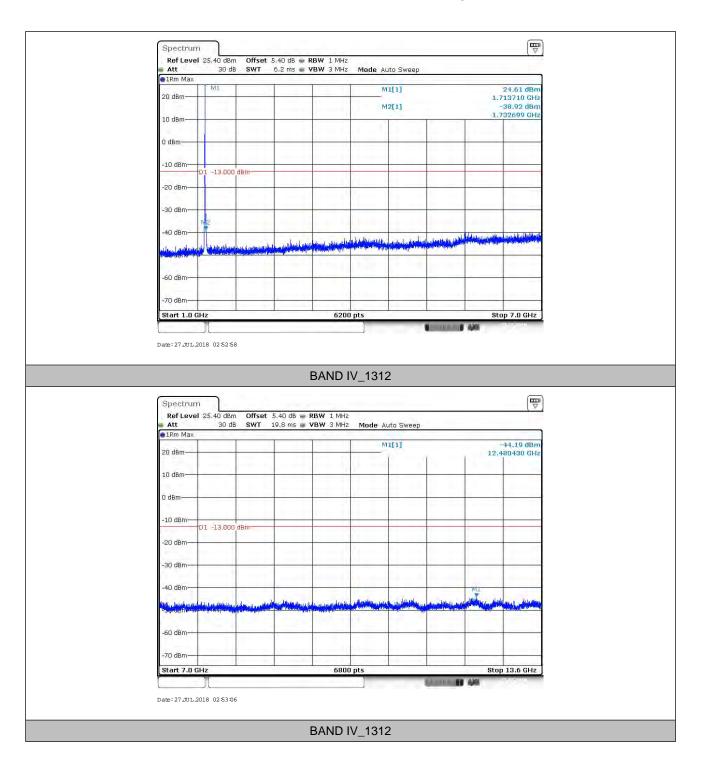


Report No.: SZEM180700654901 Page: 31 of 85



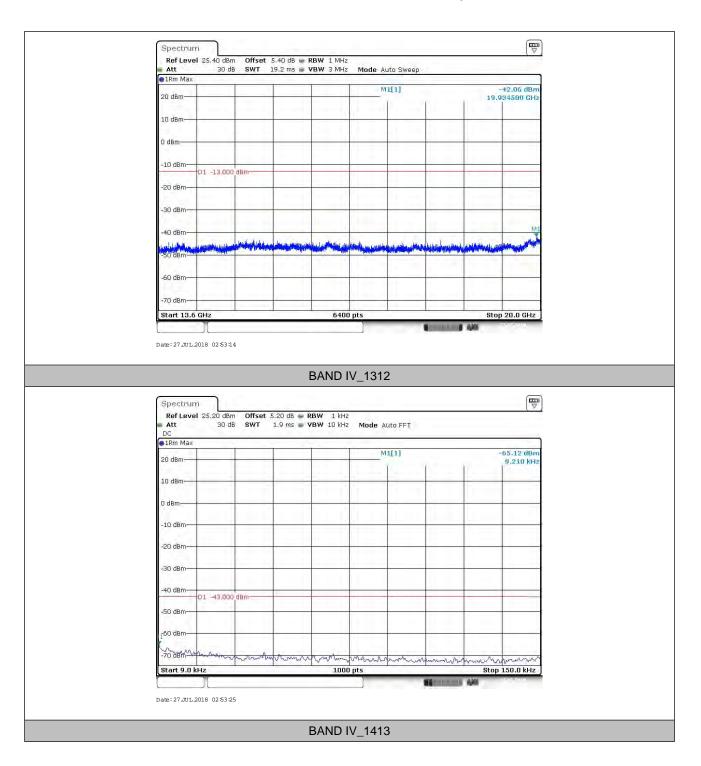


Report No.: SZEM180700654901 Page: 32 of 85



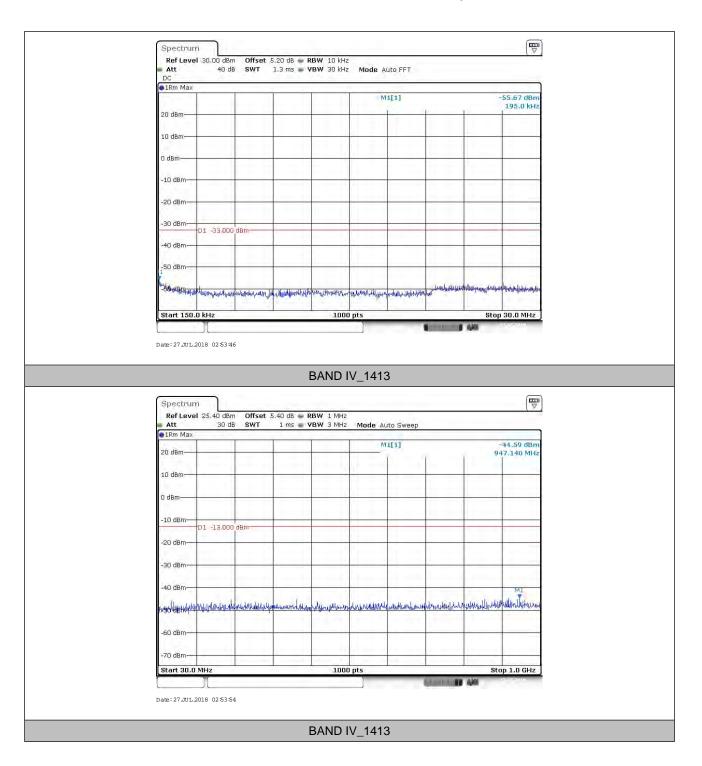


Report No.: SZEM180700654901 Page: 33 of 85



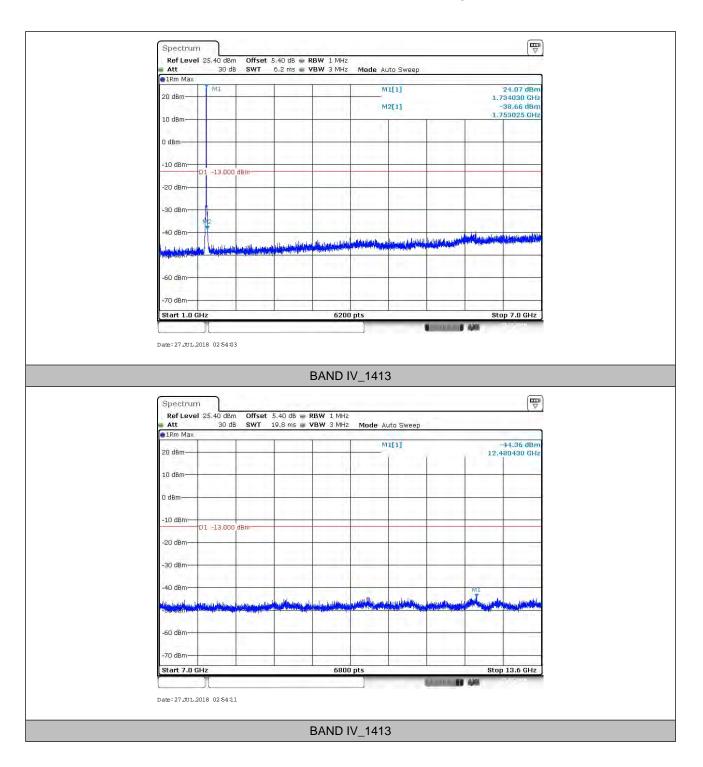


Report No.: SZEM180700654901 Page: 34 of 85



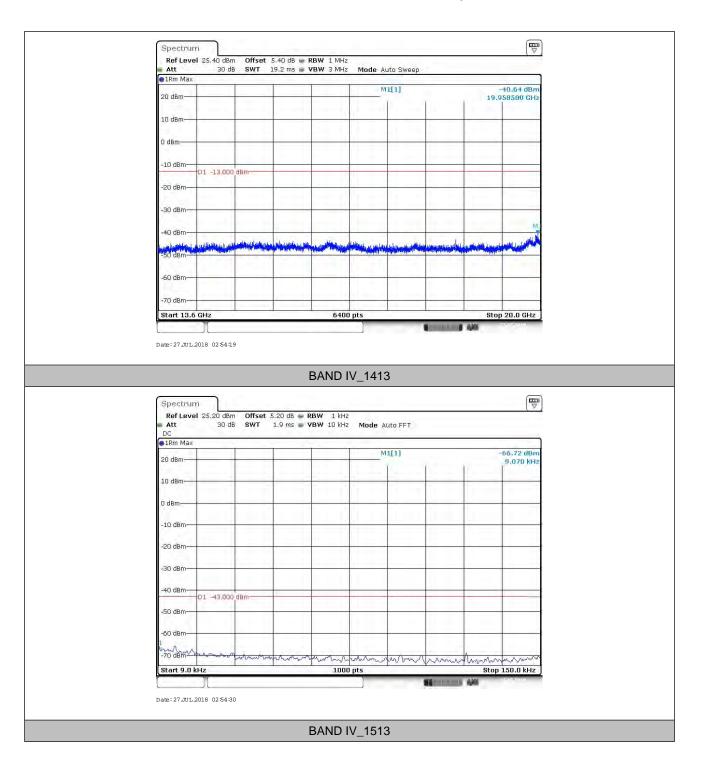


Report No.: SZEM180700654901 Page: 35 of 85



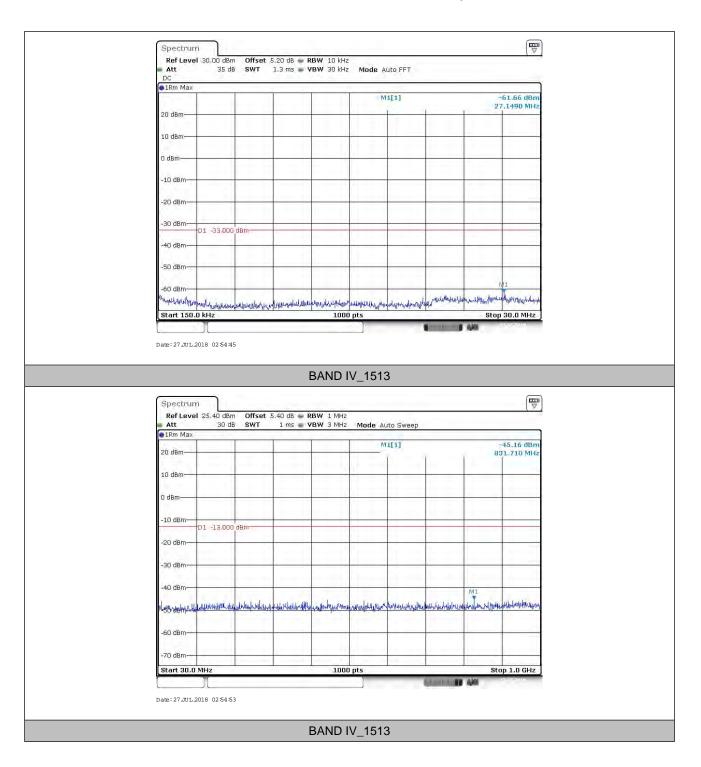


Report No.: SZEM180700654901 Page: 36 of 85



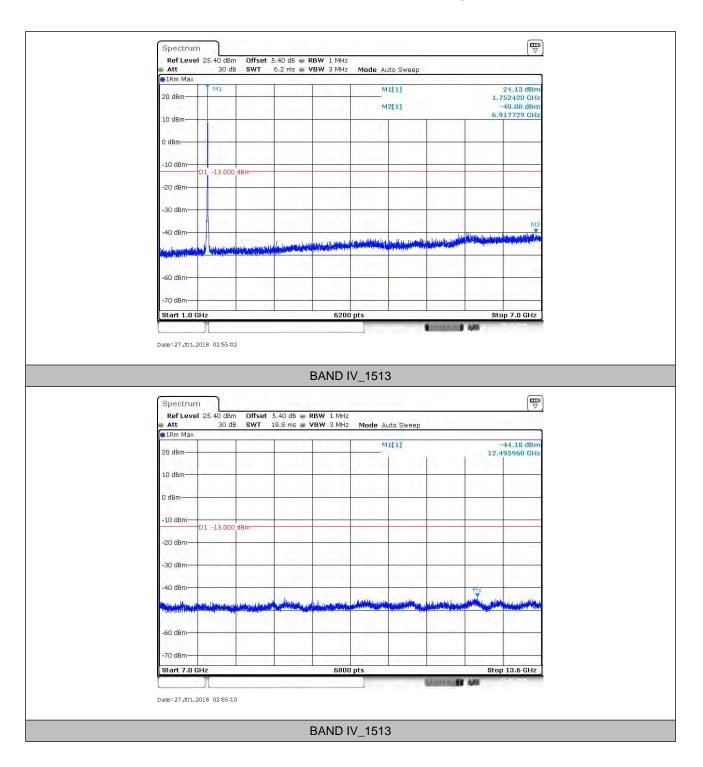


Report No.: SZEM180700654901 Page: 37 of 85



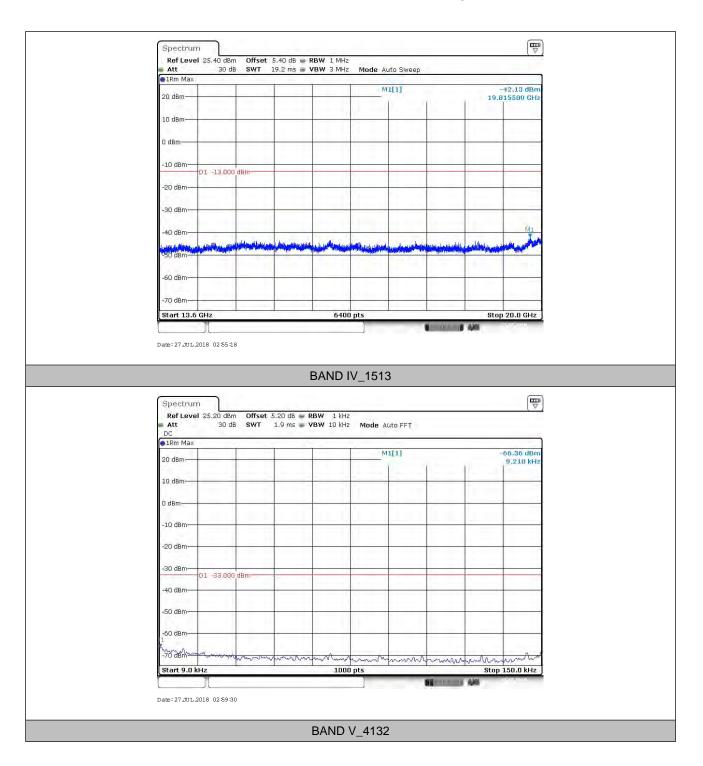


Report No.: SZEM180700654901 Page: 38 of 85



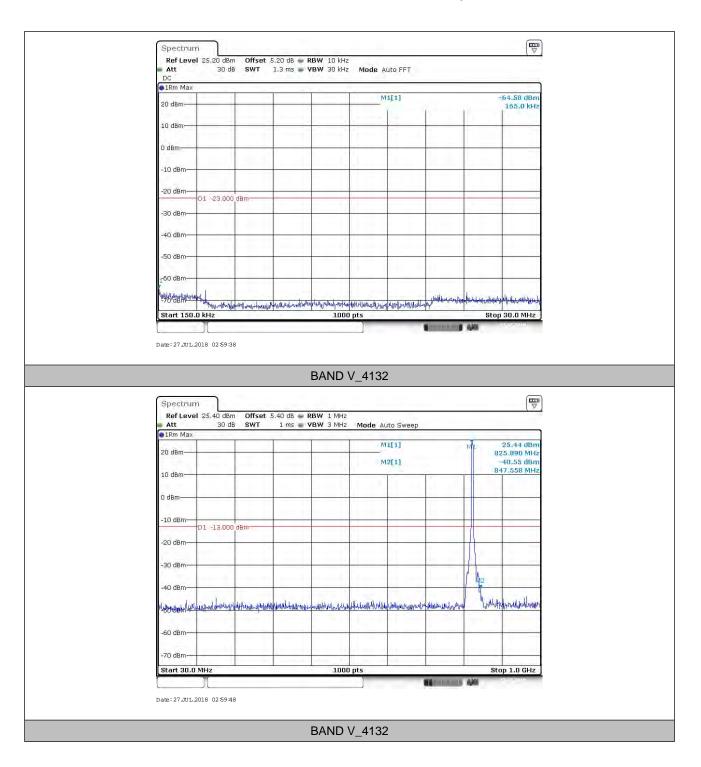


Report No.: SZEM180700654901 Page: 39 of 85



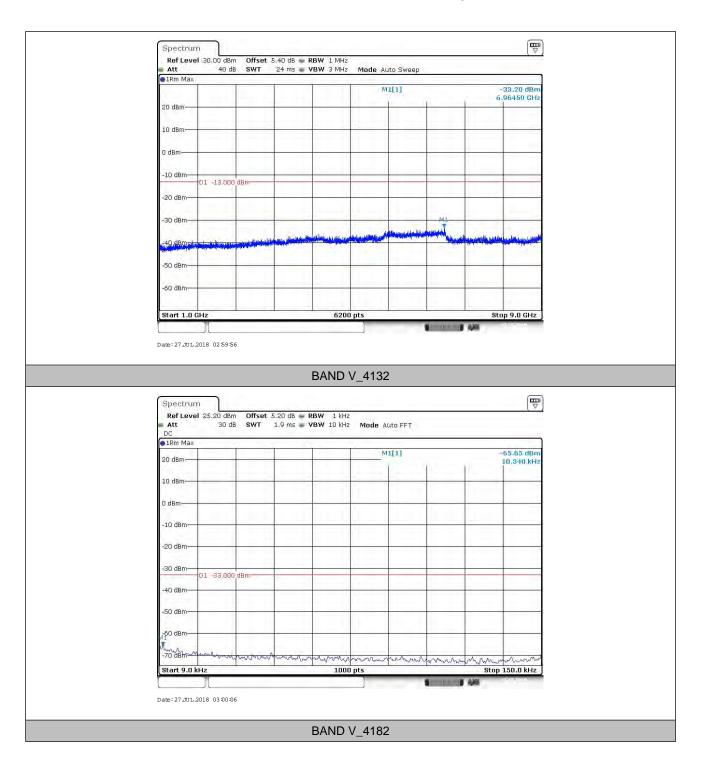


Report No.: SZEM180700654901 Page: 40 of 85



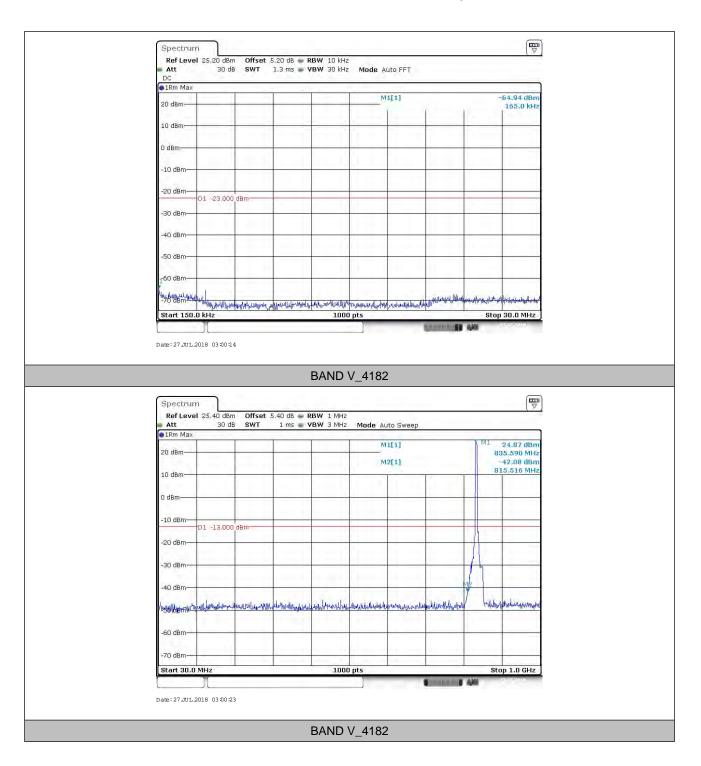


Report No.: SZEM180700654901 Page: 41 of 85



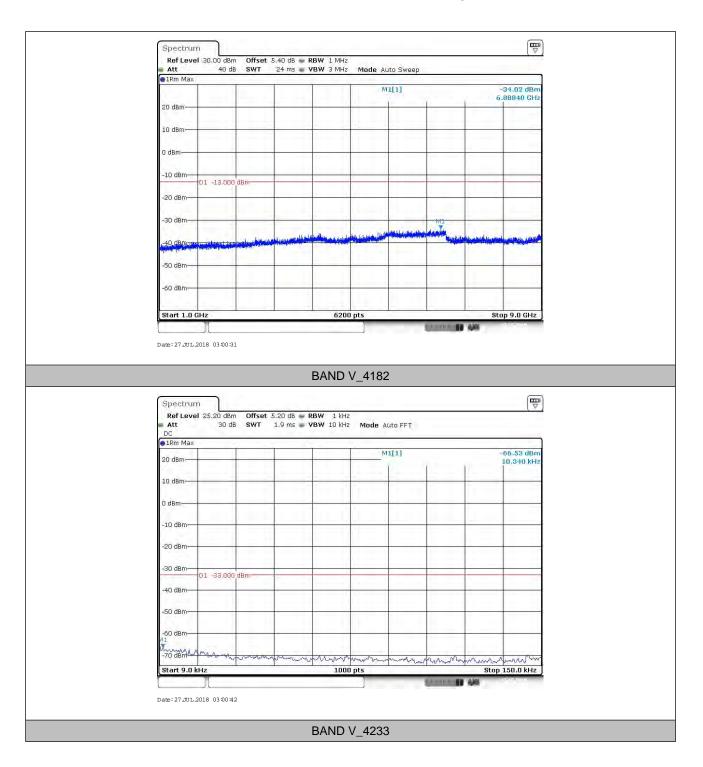


Report No.: SZEM180700654901 Page: 42 of 85



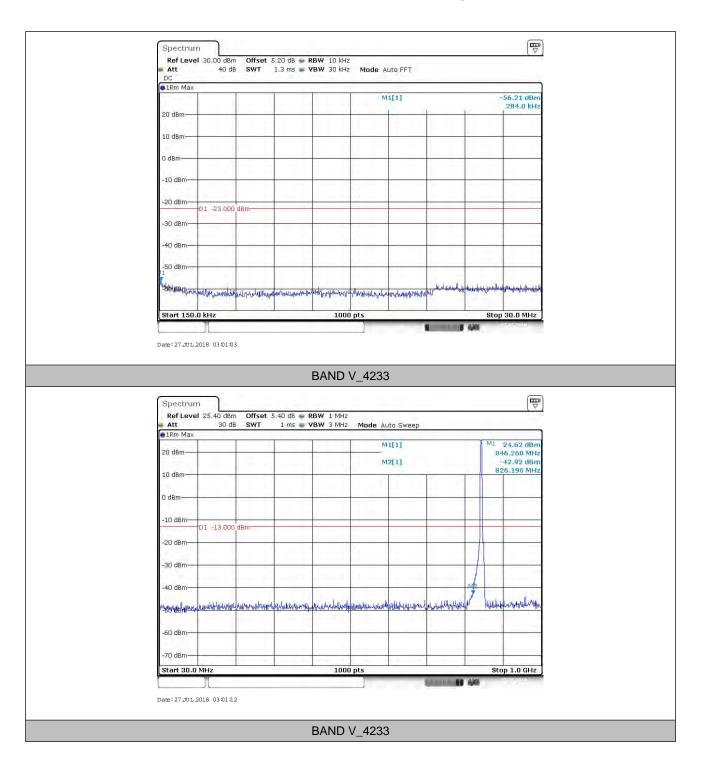


Report No.: SZEM180700654901 Page: 43 of 85



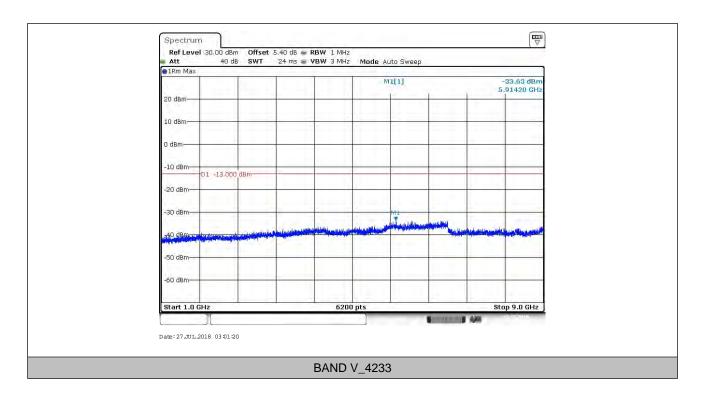


Report No.: SZEM180700654901 Page: 44 of 85





Report No.: SZEM180700654901 Page: 45 of 85





Report No.: SZEM180700654901 Page: 46 of 85

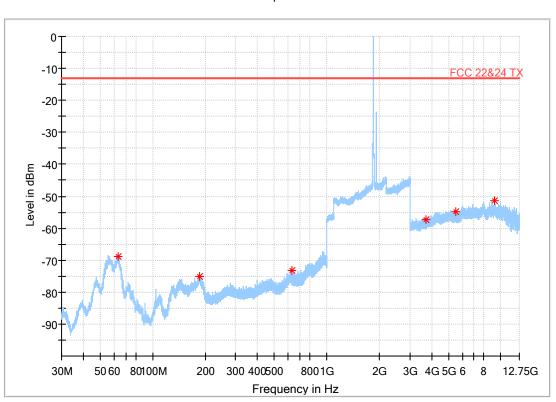
## 7. Field Strength of Spurious Radiation

Part I - Test Plots

8.1. For WCDMA-Main Antenna

### 8.1.1. Test Band = WCDMA BAND II

#### 8.1.1.1. Test Channel = LCH\_H

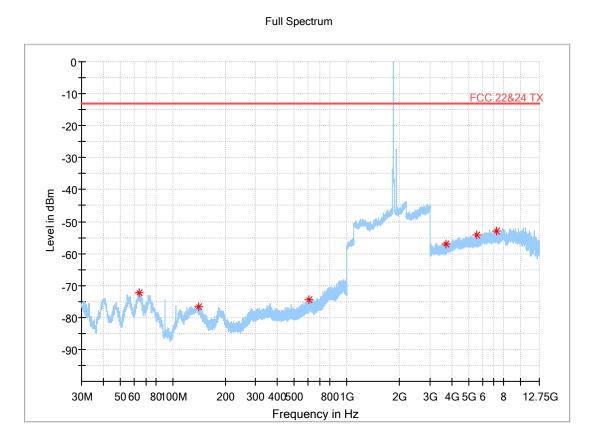


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Full Spectrum



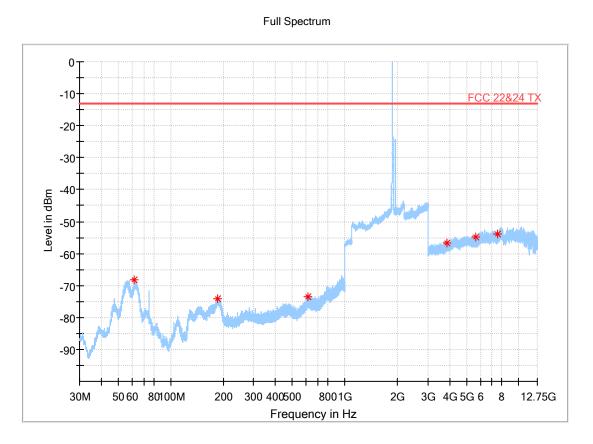
Report No.: SZEM180700654901 Page: 47 of 85



### 8.1.1.2. Test Channel = LCH\_V



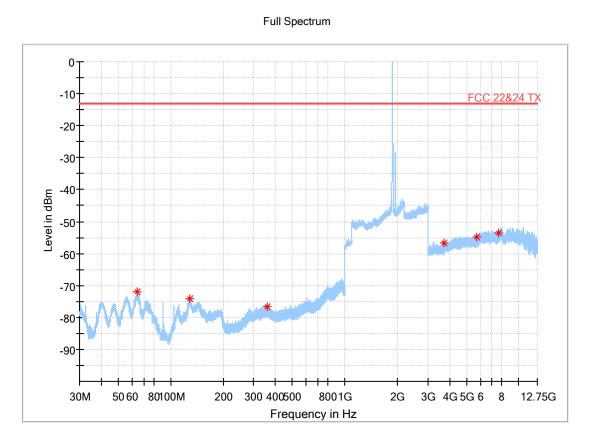
Report No.: SZEM180700654901 Page: 48 of 85



### 8.1.1.3. Test Channel = MCH\_H



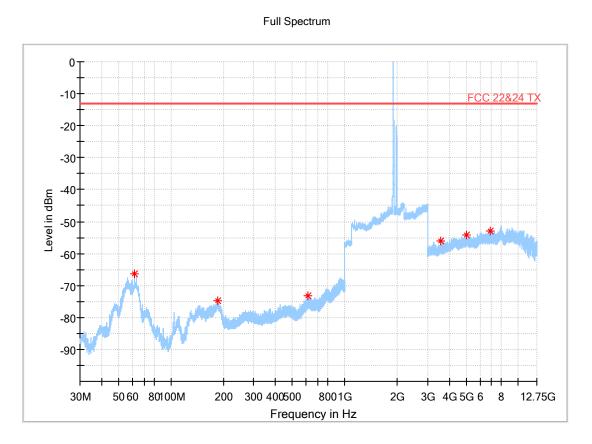
Report No.: SZEM180700654901 Page: 49 of 85



### 8.1.1.4. Test Channel = MCH\_V



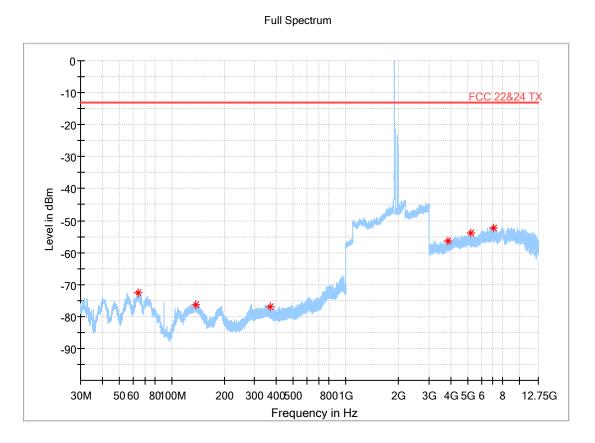
Report No.: SZEM180700654901 Page: 50 of 85



### 8.1.1.5. Test Channel = HCH\_H



Report No.: SZEM180700654901 Page: 51 of 85



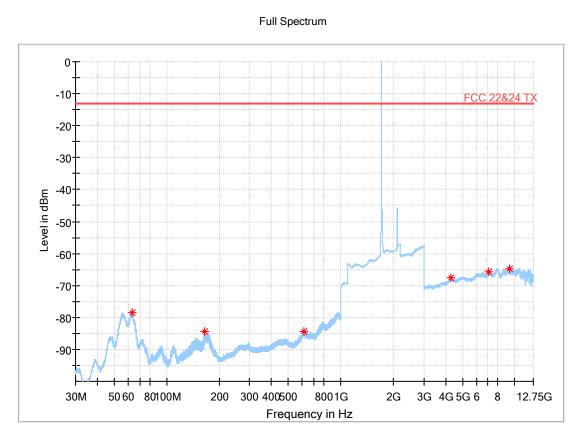
### 8.1.1.6. Test Channel = HCH\_V



Report No.: SZEM180700654901 Page: 52 of 85

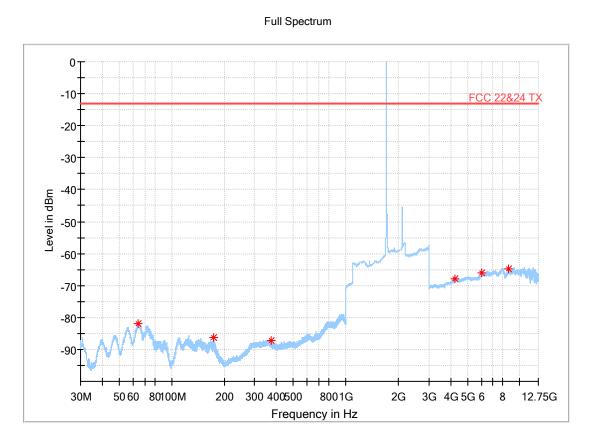
#### 8.1.2. Test Band = WCDMA BAND IV

### 8.1.2.1. Test Channel = LCH\_H





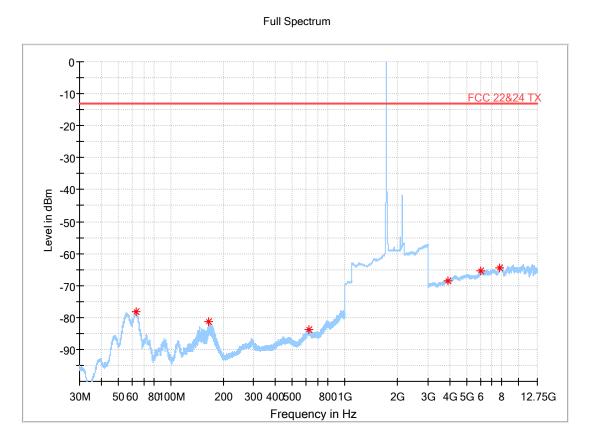
Report No.: SZEM180700654901 Page: 53 of 85



### 8.1.2.2. Test Channel = LCH\_V



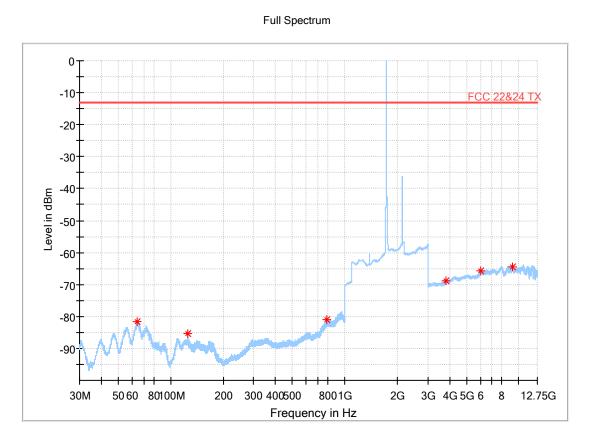
Report No.: SZEM180700654901 Page: 54 of 85



### 8.1.2.3. Test Channel = MCH\_H



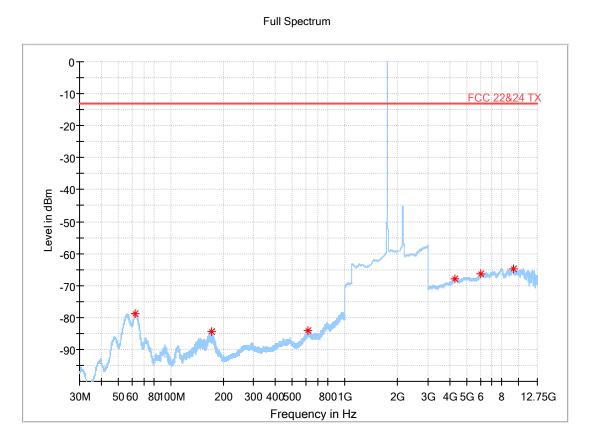
Report No.: SZEM180700654901 Page: 55 of 85



### 8.1.2.4. Test Channel = MCH\_V



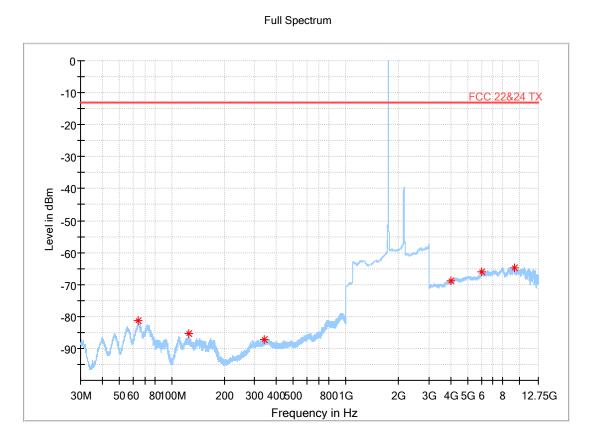
Report No.: SZEM180700654901 Page: 56 of 85



### 8.1.2.5. Test Channel = HCH\_H



Report No.: SZEM180700654901 Page: 57 of 85



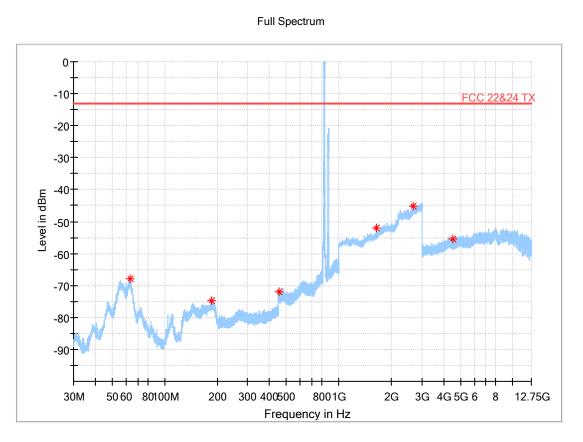
### 8.1.2.6. Test Channel = HCH\_V



Report No.: SZEM180700654901 Page: 58 of 85

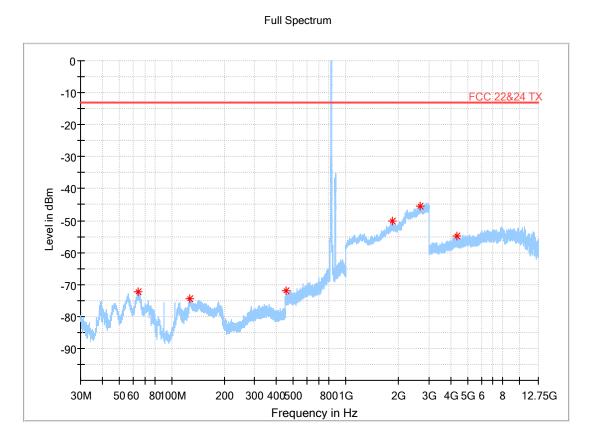
#### 8.1.3. Test Band = WCDMA BAND V

### 8.1.3.1. Test Channel = LCH\_H





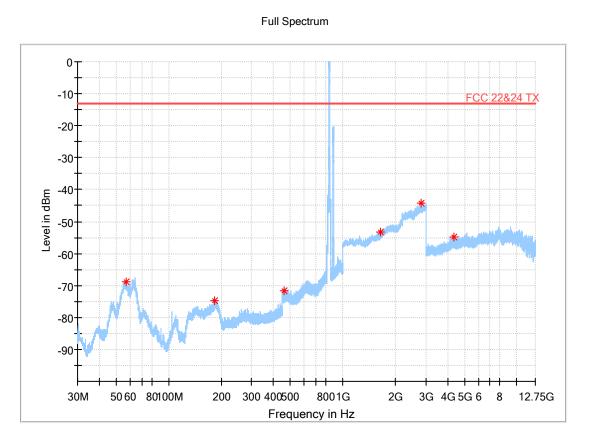
Report No.: SZEM180700654901 Page: 59 of 85



### 8.1.3.2. Test Channel = LCH\_V



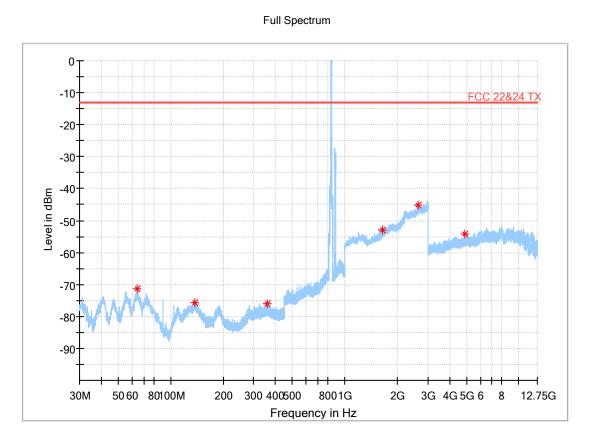
Report No.: SZEM180700654901 Page: 60 of 85



## 8.1.3.3. Test Channel = MCH\_H



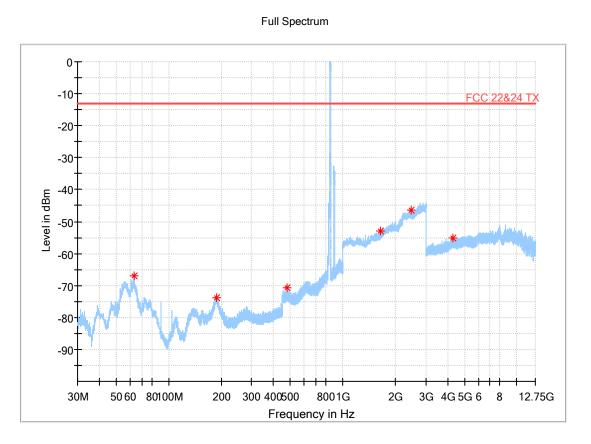
Report No.: SZEM180700654901 Page: 61 of 85



### 8.1.3.4. Test Channel = MCH\_V



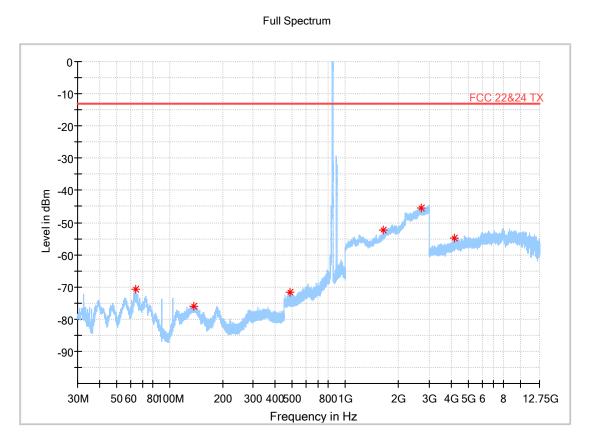
Report No.: SZEM180700654901 Page: 62 of 85



### 8.1.3.5. Test Channel = HCH\_H



Report No.: SZEM180700654901 Page: 63 of 85



### 8.1.3.6. Test Channel = HCH\_V

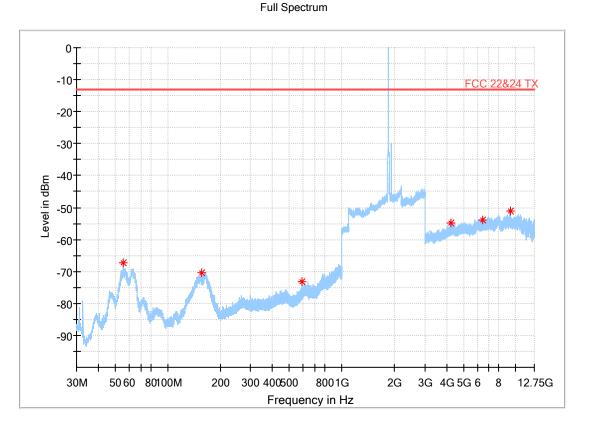


Report No.: SZEM180700654901 Page: 64 of 85

8.2. For WCDMA-Second Antenna

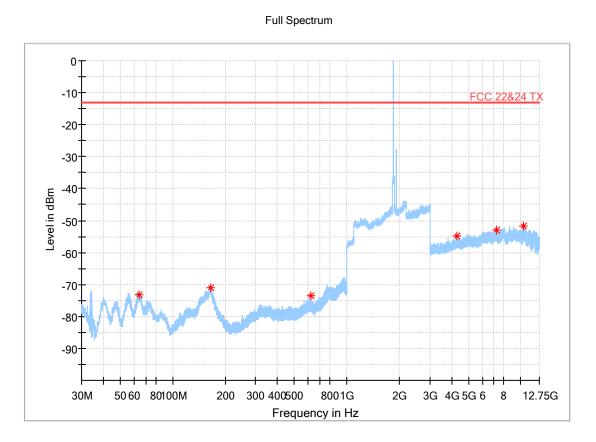
#### 8.2.1. Test Band = WC DMA BAND II

#### 8.2.1.1. Test Channel = LCH\_H





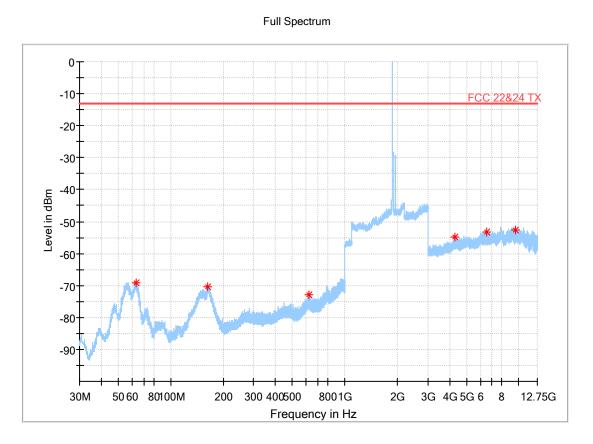
Report No.: SZEM180700654901 Page: 65 of 85



### 8.2.1.2. Test Channel = LCH\_V



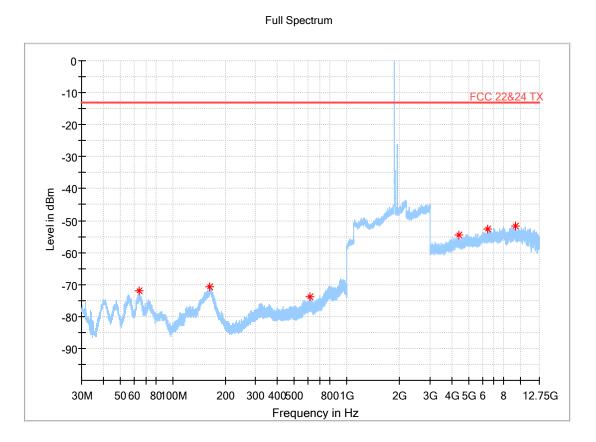
Report No.: SZEM180700654901 Page: 66 of 85



### 8.2.1.3. Test Channel = MCH\_H



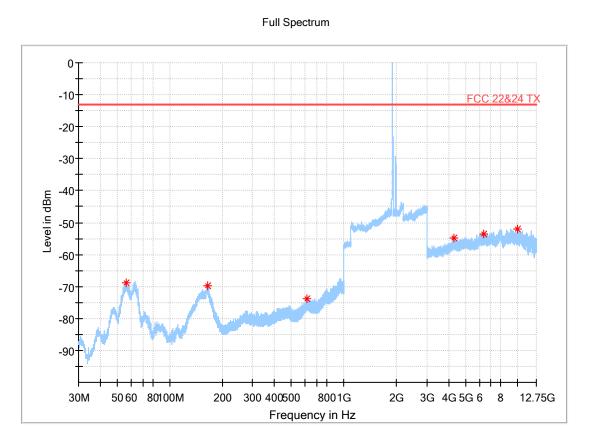
Report No.: SZEM180700654901 Page: 67 of 85



#### 8.2.1.4. Test Channel = MCH\_V



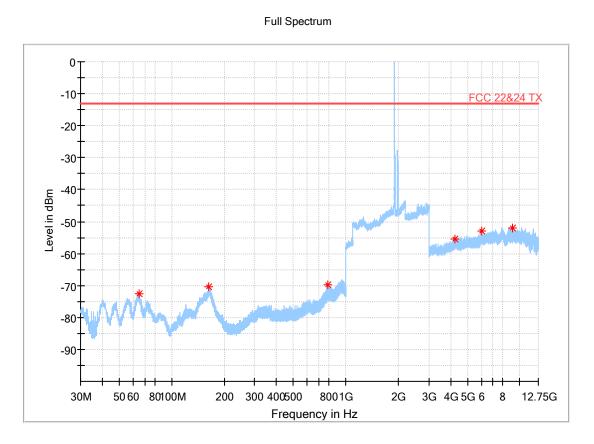
Report No.: SZEM180700654901 Page: 68 of 85



### 8.2.1.5. Test Channel = HCH\_H



Report No.: SZEM180700654901 Page: 69 of 85



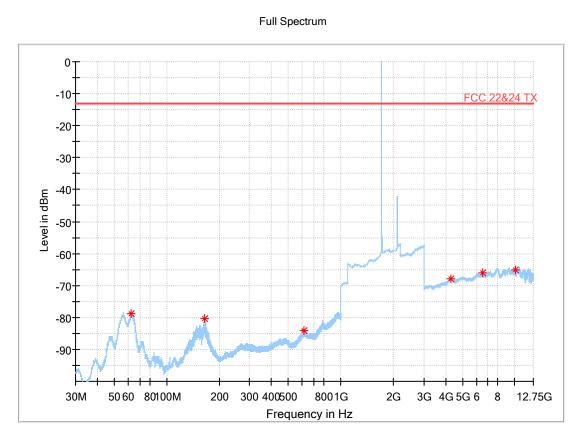
### 8.2.1.6. Test Channel = HCH\_V



Report No.: SZEM180700654901 Page: 70 of 85

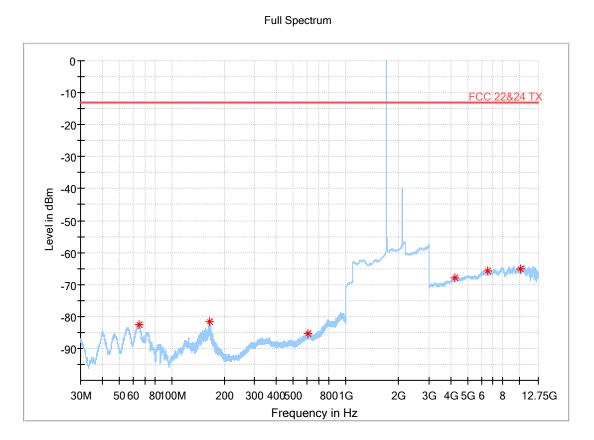
#### 8.2.2. Test Band = WCDMA BAND IV

### 8.2.2.1. Test Channel = LCH\_H





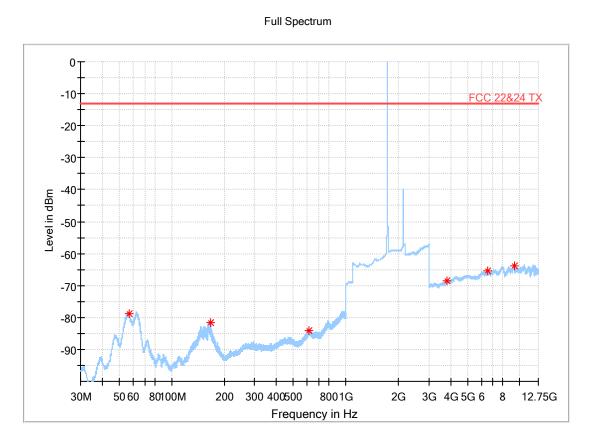
Report No.: SZEM180700654901 Page: 71 of 85



### 8.2.2.2. Test Channel = LCH\_V



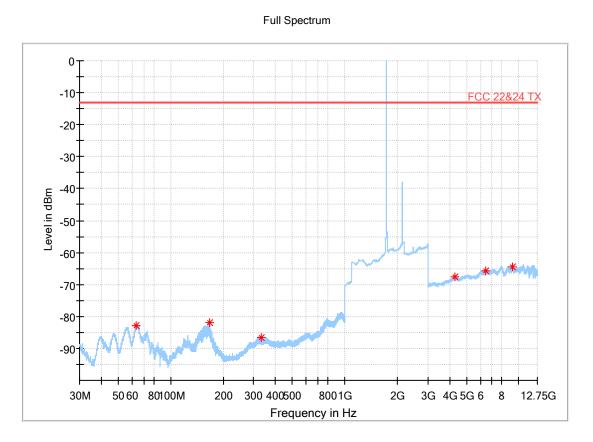
Report No.: SZEM180700654901 Page: 72 of 85



### 8.2.2.3. Test Channel = MCH\_H



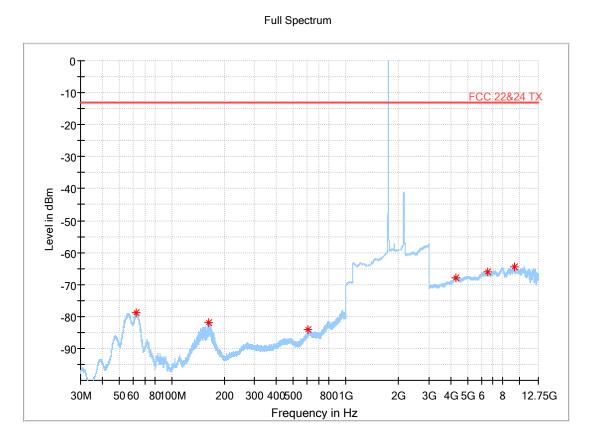
Report No.: SZEM180700654901 Page: 73 of 85



#### 8.2.2.4. Test Channel = MCH\_V



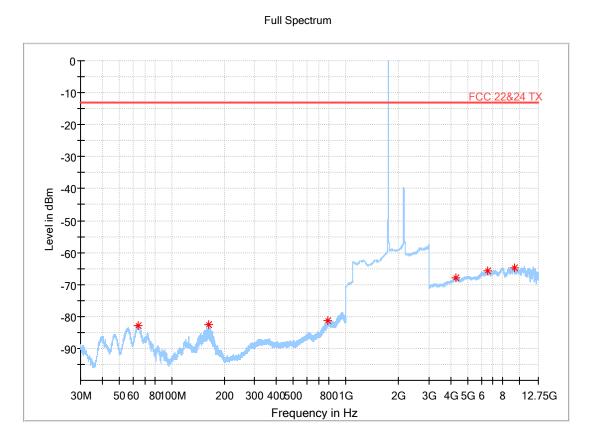
Report No.: SZEM180700654901 Page: 74 of 85



#### 8.2.2.5. Test Channel = HCH\_H



Report No.: SZEM180700654901 Page: 75 of 85



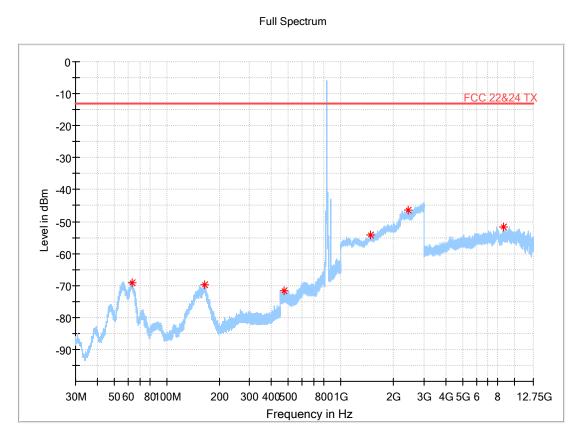
#### 8.2.2.6. Test Channel = HCH\_V



Report No.: SZEM180700654901 Page: 76 of 85

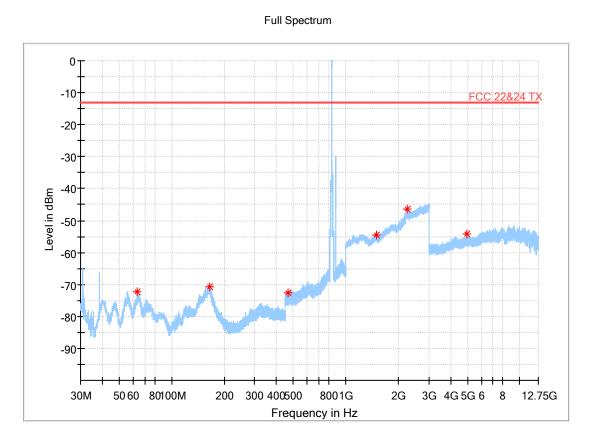
#### 8.2.3. Test Band = WCDMA BAND V

#### 8.2.3.1. Test Channel = LCH\_H





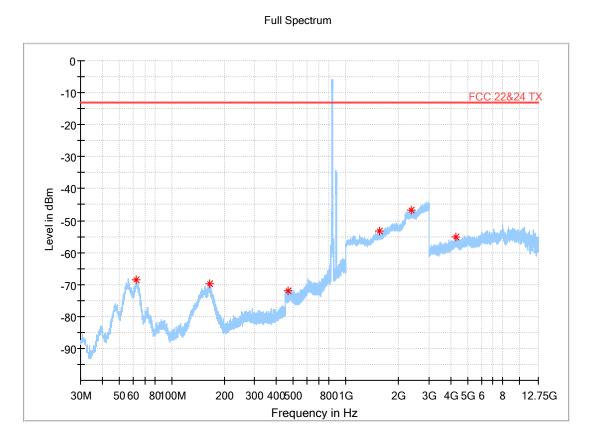
Report No.: SZEM180700654901 Page: 77 of 85



#### 8.2.3.2. Test Channel = LCH\_V



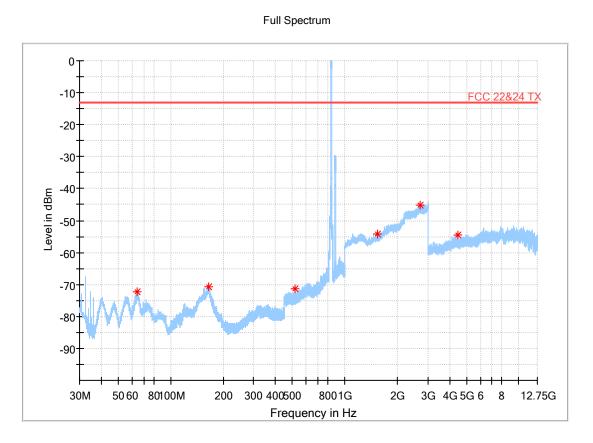
Report No.: SZEM180700654901 Page: 78 of 85



#### 8.2.3.3. Test Channel = MCH\_H



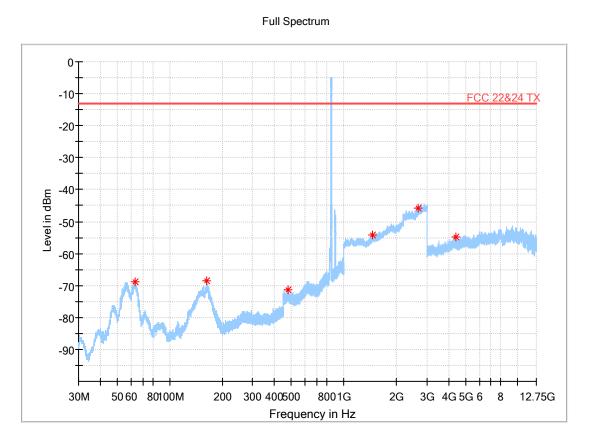
Report No.: SZEM180700654901 Page: 79 of 85



#### 8.2.3.4. Test Channel = MCH\_V



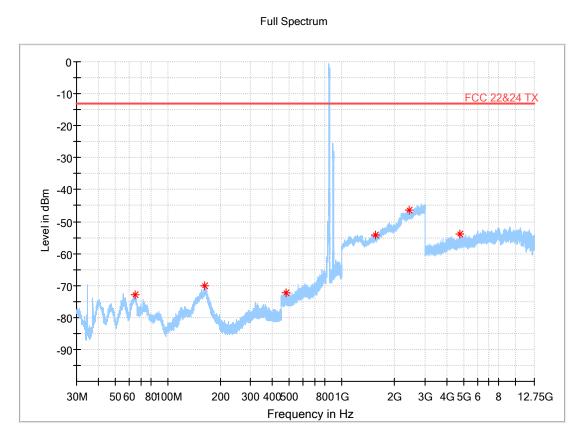
Report No.: SZEM180700654901 Page: 80 of 85



#### 8.2.3.5. Test Channel = HCH\_H



Report No.: SZEM180700654901 Page: 81 of 85



#### 8.2.3.6. Test Channel = HCH\_V

#### NOTE:

- 1) The disturbance above 12.75GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case had been displayed.
- 2) We have tested all modulation and channels, but only the worst case data was displayed in this report.



Report No.: SZEM180700654901 Page: 82 of 85

### 8. Frequency Stability

### 9.1. Frequency Vs Voltage

Voltage								
BAND	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict	
BAND II	9262	VL	TN	-1.68	-0.000907	2.5	PASS	
BAND II	9262	VN	TN	-5.87	-0.003166	2.5	PASS	
BAND II	9262	VH	TN	-2.42	-0.001305	2.5	PASS	
BAND II	9400	VL	TN	14.68	0.007807	2.5	PASS	
BAND II	9400	VN	TN	7.02	0.003732	2.5	PASS	
BAND II	9400	VH	TN	25.83	0.013738	2.5	PASS	
BAND II	9538	VL	TN	16.89	0.008853	2.5	PASS	
BAND II	9538	VN	TN	11.64	0.006104	2.5	PASS	
BAND II	9538	VH	TN	14.61	0.007656	2.5	PASS	
BAND IV	1312	VL	TN	14.91	0.008705	2.5	PASS	
BAND IV	1312	VN	TN	9.18	0.005363	2.5	PASS	
BAND IV	1312	VH	TN	19.26	0.011248	2.5	PASS	
BAND IV	1413	VL	TN	15.34	0.008851	2.5	PASS	
BAND IV	1413	VN	TN	2.35	0.001354	2.5	PASS	
BAND IV	1413	VH	TN	20.48	0.011819	2.5	PASS	
BAND IV	1513	VL	TN	9.69	0.005530	2.5	PASS	
BAND IV	1513	VN	TN	-7.32	-0.004179	2.5	PASS	
BAND IV	1513	VH	TN	14.37	0.008199	2.5	PASS	
BAND V	4132	VL	TN	4.94	0.005972	2.5	PASS	
BAND V	4132	VN	TN	1.62	0.001956	2.5	PASS	
BAND V	4132	VH	TN	-2.01	-0.002432	2.5	PASS	
BAND V	4182	VL	TN	14.08	0.016830	2.5	PASS	
BAND V	4182	VN	TN	17.07	0.020413	2.5	PASS	
BAND V	4182	VH	TN	18.37	0.021961	2.5	PASS	
BAND V	4233	VL	TN	10.79	0.012740	2.5	PASS	
BAND V	4233	VN	TN	1.09	0.001284	2.5	PASS	
BAND V	4233	VH	TN	16.82	0.019863	2.5	PASS	



Report No.: SZEM180700654901 Page: 83 of 85

Temperature								
BAND	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdic t	
BAND II	9262	VN	-30	-8.86	-0.004784	2.5	PASS	
BAND II	9262	VN	-20	9.48	0.005120	2.5	PASS	
BAND II	9262	VN	-10	24.50	0.013225	2.5	PASS	
BAND II	9262	VN	0	26.56	0.014337	2.5	PASS	
BAND II	9262	VN	10	-20.03	-0.010815	2.5	PASS	
BAND II	9262	VN	20	-4.42	-0.002386	2.5	PASS	
BAND II	9262	VN	30	33.85	0.018271	2.5	PASS	
BAND II	9262	VN	40	28.24	0.015244	2.5	PASS	
BAND II	9262	VN	50	7.80	0.004209	2.5	PASS	
BAND II	9400	VN	-30	12.47	0.006635	2.5	PASS	
BAND II	9400	VN	-20	21.45	0.011410	2.5	PASS	
BAND II	9400	VN	-10	19.61	0.010432	2.5	PASS	
BAND II	9400	VN	0	7.25	0.003858	2.5	PASS	
BAND II	9400	VN	10	6.32	0.003359	2.5	PASS	
BAND II	9400	VN	20	12.21	0.006494	2.5	PASS	
BAND II	9400	VN	30	11.00	0.005851	2.5	PASS	
BAND II	9400	VN	40	10.49	0.005581	2.5	PASS	
BAND II	9400	VN	50	-5.04	-0.002682	2.5	PASS	
BAND II	9538	VN	-30	12.10	0.006344	2.5	PASS	
BAND II	9538	VN	-20	-11.01	-0.005774	2.5	PASS	
BAND II	9538	VN	-10	17.75	0.009303	2.5	PASS	
BAND II	9538	VN	0	2.73	0.001429	2.5	PASS	
BAND II	9538	VN	10	14.95	0.007836	2.5	PASS	
BAND II	9538	VN	20	7.22	0.003787	2.5	PASS	
BAND II	9538	VN	30	10.38	0.005441	2.5	PASS	
BAND II	9538	VN	40	-22.54	-0.011818	2.5	PASS	
BAND II	9538	VN	50	36.10	0.018924	2.5	PASS	
BAND IV	1312	VN	-30	23.94	0.013980	2.5	PASS	
BAND IV	1312	VN	-20	2.31	0.001349	2.5	PASS	
BAND IV	1312	VN	-10	0.38	0.000221	2.5	PASS	
BAND IV	1312	VN	0	17.71	0.010342	2.5	PASS	
BAND IV	1312	VN	10	11.29	0.006591	2.5	PASS	
BAND IV	1312	VN	20	17.79	0.010388	2.5	PASS	
BAND IV	1312	VN	30	38.81	0.022664	2.5	PASS	
BAND IV	1312	VN	40	32.16	0.018779	2.5	PASS	

### 9.2. Frequency Vs Temperature

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Report No.: SZEM180700654901 Page: 84 of 85

BAND IV	1312	VN	50	24.49	0.014302	2.5	PASS
BAND IV	1413	VN	-30	17.44	0.010065	2.5	PASS
BAND IV	1413	VN	-20	6.58	0.003798	2.5	PASS
BAND IV	1413	VN	-10	6.61	0.003814	2.5	PASS
BAND IV	1413	VN	0	4.36	0.002518	2.5	PASS
BAND IV	1413	VN	10	7.71	0.004450	2.5	PASS
BAND IV	1413	VN	20	4.36	0.002514	2.5	PASS
BAND IV	1413	VN	30	4.34	0.002506	2.5	PASS
BAND IV	1413	VN	40	13.31	0.007683	2.5	PASS
BAND IV	1413	VN	50	5.94	0.003431	2.5	PASS
BAND IV	1513	VN	-30	7.77	0.004436	2.5	PASS
BAND IV	1513	VN	-20	17.61	0.010048	2.5	PASS
BAND IV	1513	VN	-10	4.53	0.002583	2.5	PASS
BAND IV	1513	VN	0	32.16	0.018349	2.5	PASS
BAND IV	1513	VN	10	-5.86	-0.003342	2.5	PASS
BAND IV	1513	VN	20	10.66	0.006085	2.5	PASS
BAND IV	1513	VN	30	14.83	0.008464	2.5	PASS
BAND IV	1513	VN	40	4.61	0.002628	2.5	PASS
BAND IV	1513	VN	50	20.87	0.011909	2.5	PASS
BAND V	4132	VN	-30	9.22	0.011156	2.5	PASS
BAND V	4132	VN	-20	7.07	0.008560	2.5	PASS
BAND V	4132	VN	-10	2.02	0.002441	2.5	PASS
BAND V	4132	VN	0	1.68	0.002034	2.5	PASS
BAND V	4132	VN	10	7.62	0.009226	2.5	PASS
BAND V	4132	VN	20	11.46	0.013865	2.5	PASS
BAND V	4132	VN	30	11.57	0.013995	2.5	PASS
BAND V	4132	VN	40	1.09	0.001316	2.5	PASS
BAND V	4132	VN	50	9.57	0.011580	2.5	PASS
BAND V	4182	VN	-30	22.19	0.026527	2.5	PASS
BAND V	4182	VN	-20	25.01	0.029896	2.5	PASS
BAND V	4182	VN	-10	24.86	0.029717	2.5	PASS
BAND V	4182	VN	0	9.99	0.011947	2.5	PASS
BAND V	4182	VN	10	24.51	0.029306	2.5	PASS
BAND V	4182	VN	20	17.02	0.020353	2.5	PASS
BAND V	4182	VN	30	9.84	0.011767	2.5	PASS
BAND V	4182	VN	40	13.55	0.016197	2.5	PASS
BAND V	4182	VN	50	10.66	0.012750	2.5	PASS
BAND V	4233	VN	-30	-19.53	-0.023065	2.5	PASS
BAND V	4233	VN	-20	-1.75	-0.002070	2.5	PASS
BAND V	4233	VN	-10	14.87	0.017565	2.5	PASS



Report No.: SZEM180700654901 Page: 85 of 85

BAND V	4233	VN	0	-9.75	-0.011515	2.5	PASS
BAND V	4233	VN	10	19.99	0.023614	2.5	PASS
BAND V	4233	VN	20	6.72	0.007933	2.5	PASS
BAND V	4233	VN	30	20.30	0.023977	2.5	PASS
BAND V	4233	VN	40	-5.28	-0.006235	2.5	PASS
BAND V	4233	VN	50	-1.59	-0.001876	2.5	PASS

The End

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