

Appendix B

E-UTRA Band 71

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1. Main Test Instruments

RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal. Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Spectrum Analyzer (20Hz-43GHz)	Rohde & Schwarz	FSU43	SEM004-08	2019/3/2	2020/3/1
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017/6/27	2020/6/26
Horn Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017/10/17	2020/10/16
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2019/7/14	2020/7/14
Low Noise Amplifier (100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2019/7/14	2020/7/14
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	EMC2063	2019/9/20	2020/9/19
Pre-amplifier (26-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2019/3/2	2020/3/1
Band filter	N/A	N/A	N/A	N/A	N/A
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2019/6/12	2020/6/11
Wideband Radio Communication Tester	Anristu	MT8821C	6201462742	2019/4/3	2020/4/3
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	W005-02	2019/1/13	2020/1/12
RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal. Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
Dual Output Mobile Communication DC Source	Agilent Technologies Inc	66311B	W009-09	2018/11/2	2019/11/1
Signal Analyzer	Rohde & Schwarz	FSV	W005-02	2019/3/2	2020/3/1
Coaxial Cable	SGS	N/A	SEM031-01	2019/6/12	2020/6/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2018/11/2	2019/11/1
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	W006-17	2018/11/2	2019/11/1
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2018/11/2	2019/11/1
Wideband Radio Communication Tester	Anristu	MT8821C	6201462742	2019/3/2	2020/3/1

2. Measurement Uncertainty

For a 95% confidence level ($k = 2$), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

Test Item	Extended Uncertainty	Data
Transmit Output Power Data	Power [dBm]	$U = \pm 0.37$ dB
Bandwidth	Magnitude [%]	$U = \pm 0.2\%$
Band Edge Compliance	Disturbance Power [dBm]	$U = \pm 2.0$ dB
Spurious Emissions, Conducted	Disturbance Power [dBm]	$U = \pm 2.0$ dB
Frequency Stability	Frequency Accuracy [ppm]	$U = \pm 0.24$ ppm

3 Effective (Isotropic) Radiated Power

3.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power(dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band71	5MHz	QPSK	133147	1RB#12	22.03	17.99	34.77	PASS
Band71	5MHz	QPSK	133147	1RB#0	22.34	18.30	34.77	PASS
Band71	5MHz	QPSK	133147	1RB#24	22.10	18.06	34.77	PASS
Band71	5MHz	QPSK	133147	12RB#0	21.11	17.07	34.77	PASS
Band71	5MHz	QPSK	133147	12RB#6	21.19	17.15	34.77	PASS
Band71	5MHz	QPSK	133147	12RB#13	21.17	17.13	34.77	PASS
Band71	5MHz	QPSK	133147	25RB#0	21.12	17.08	34.77	PASS
Band71	5MHz	QPSK	133297	1RB#24	22.07	18.03	34.77	PASS
Band71	5MHz	QPSK	133297	1RB#12	22.32	18.28	34.77	PASS
Band71	5MHz	QPSK	133297	1RB#0	22.20	18.16	34.77	PASS
Band71	5MHz	QPSK	133297	12RB#0	21.22	17.18	34.77	PASS
Band71	5MHz	QPSK	133297	12RB#13	21.14	17.10	34.77	PASS
Band71	5MHz	QPSK	133297	12RB#6	21.38	17.34	34.77	PASS
Band71	5MHz	QPSK	133297	25RB#0	21.25	17.21	34.77	PASS
Band71	5MHz	QPSK	133447	1RB#24	21.92	17.88	34.77	PASS
Band71	5MHz	QPSK	133447	1RB#12	22.16	18.12	34.77	PASS
Band71	5MHz	QPSK	133447	1RB#0	22.04	18.00	34.77	PASS
Band71	5MHz	QPSK	133447	12RB#6	21.28	17.24	34.77	PASS
Band71	5MHz	QPSK	133447	12RB#13	21.15	17.11	34.77	PASS
Band71	5MHz	QPSK	133447	12RB#0	21.42	17.38	34.77	PASS
Band71	5MHz	QPSK	133447	25RB#0	21.34	17.30	34.77	PASS
Band71	5MHz	16QAM	133147	1RB#12	21.36	17.32	34.77	PASS
Band71	5MHz	16QAM	133147	1RB#0	21.56	17.52	34.77	PASS
Band71	5MHz	16QAM	133147	1RB#24	21.56	17.52	34.77	PASS
Band71	5MHz	16QAM	133147	12RB#0	20.11	16.07	34.77	PASS
Band71	5MHz	16QAM	133147	12RB#6	20.10	16.06	34.77	PASS
Band71	5MHz	16QAM	133147	12RB#13	20.18	16.14	34.77	PASS
Band71	5MHz	16QAM	133147	25RB#0	20.12	16.08	34.77	PASS
Band71	5MHz	16QAM	133297	1RB#24	21.59	17.55	34.77	PASS
Band71	5MHz	16QAM	133297	1RB#12	21.78	17.74	34.77	PASS
Band71	5MHz	16QAM	133297	1RB#0	21.75	17.71	34.77	PASS
Band71	5MHz	16QAM	133297	12RB#13	20.19	16.15	34.77	PASS
Band71	5MHz	16QAM	133297	12RB#0	20.30	16.26	34.77	PASS
Band71	5MHz	16QAM	133297	12RB#6	20.30	16.26	34.77	PASS
Band71	5MHz	16QAM	133297	25RB#0	20.30	16.26	34.77	PASS
Band71	5MHz	16QAM	133447	1RB#24	21.52	17.48	34.77	PASS
Band71	5MHz	16QAM	133447	1RB#12	21.64	17.60	34.77	PASS
Band71	5MHz	16QAM	133447	1RB#0	21.57	17.53	34.77	PASS
Band71	5MHz	16QAM	133447	12RB#0	20.31	16.27	34.77	PASS
Band71	5MHz	16QAM	133447	12RB#6	20.20	16.16	34.77	PASS
Band71	5MHz	16QAM	133447	12RB#13	20.47	16.43	34.77	PASS
Band71	5MHz	16QAM	133447	25RB#0	20.31	16.27	34.77	PASS
Band71	10MHz	QPSK	133172	1RB#24	22.05	18.01	34.77	PASS
Band71	10MHz	QPSK	133172	1RB#0	22.32	18.28	34.77	PASS
Band71	10MHz	QPSK	133172	1RB#49	22.14	18.10	34.77	PASS

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Band71	10MHz	QPSK	133172	25RB#0	21.00	16.96	34.77	PASS
Band71	10MHz	QPSK	133172	25RB#12	21.15	17.11	34.77	PASS
Band71	10MHz	QPSK	133172	25RB#25	21.16	17.12	34.77	PASS
Band71	10MHz	QPSK	133172	50RB#0	21.13	17.09	34.77	PASS
Band71	10MHz	QPSK	133297	1RB#49	22.08	18.04	34.77	PASS
Band71	10MHz	QPSK	133297	1RB#24	22.30	18.26	34.77	PASS
Band71	10MHz	QPSK	133297	1RB#0	22.08	18.04	34.77	PASS
Band71	10MHz	QPSK	133297	25RB#12	21.16	17.12	34.77	PASS
Band71	10MHz	QPSK	133297	25RB#25	21.29	17.25	34.77	PASS
Band71	10MHz	QPSK	133297	25RB#0	21.43	17.39	34.77	PASS
Band71	10MHz	QPSK	133297	50RB#0	21.30	17.26	34.77	PASS
Band71	10MHz	QPSK	133422	1RB#0	21.94	17.90	34.77	PASS
Band71	10MHz	QPSK	133422	1RB#49	22.27	18.23	34.77	PASS
Band71	10MHz	QPSK	133422	1RB#24	22.06	18.02	34.77	PASS
Band71	10MHz	QPSK	133422	25RB#25	21.30	17.26	34.77	PASS
Band71	10MHz	QPSK	133422	25RB#12	21.16	17.12	34.77	PASS
Band71	10MHz	QPSK	133422	25RB#0	21.30	17.26	34.77	PASS
Band71	10MHz	QPSK	133422	50RB#0	21.25	17.21	34.77	PASS
Band71	10MHz	16QAM	133172	1RB#49	21.36	17.32	34.77	PASS
Band71	10MHz	16QAM	133172	1RB#24	21.56	17.52	34.77	PASS
Band71	10MHz	16QAM	133172	1RB#0	21.52	17.48	34.77	PASS
Band71	10MHz	16QAM	133172	25RB#25	20.06	16.02	34.77	PASS
Band71	10MHz	16QAM	133172	25RB#0	20.12	16.08	34.77	PASS
Band71	10MHz	16QAM	133172	25RB#12	20.09	16.05	34.77	PASS
Band71	10MHz	16QAM	133172	50RB#0	20.05	16.01	34.77	PASS
Band71	10MHz	16QAM	133297	1RB#49	21.48	17.44	34.77	PASS
Band71	10MHz	16QAM	133297	1RB#0	21.63	17.59	34.77	PASS
Band71	10MHz	16QAM	133297	1RB#24	21.67	17.63	34.77	PASS
Band71	10MHz	16QAM	133297	25RB#12	20.27	16.23	34.77	PASS
Band71	10MHz	16QAM	133297	25RB#25	20.25	16.21	34.77	PASS
Band71	10MHz	16QAM	133297	25RB#0	20.42	16.38	34.77	PASS
Band71	10MHz	16QAM	133297	50RB#0	20.32	16.28	34.77	PASS
Band71	10MHz	16QAM	133422	1RB#0	21.49	17.45	34.77	PASS
Band71	10MHz	16QAM	133422	1RB#49	21.72	17.68	34.77	PASS
Band71	10MHz	16QAM	133422	1RB#24	21.61	17.57	34.77	PASS
Band71	10MHz	16QAM	133422	25RB#0	20.26	16.22	34.77	PASS
Band71	10MHz	16QAM	133422	25RB#12	20.27	16.23	34.77	PASS
Band71	10MHz	16QAM	133422	25RB#25	20.47	16.43	34.77	PASS
Band71	10MHz	16QAM	133422	50RB#0	20.28	16.24	34.77	PASS
Band71	15MHz	QPSK	133197	1RB#74	22.07	18.03	34.77	PASS
Band71	15MHz	QPSK	133197	1RB#0	22.26	18.22	34.77	PASS
Band71	15MHz	QPSK	133197	1RB#38	22.11	18.07	34.77	PASS
Band71	15MHz	QPSK	133197	36RB#39	21.02	16.98	34.77	PASS
Band71	15MHz	QPSK	133197	36RB#18	21.18	17.14	34.77	PASS
Band71	15MHz	QPSK	133197	36RB#0	21.26	17.22	34.77	PASS
Band71	15MHz	QPSK	133197	75RB#0	21.04	17.00	34.77	PASS
Band71	15MHz	QPSK	133297	1RB#74	22.10	18.06	34.77	PASS
Band71	15MHz	QPSK	133297	1RB#38	22.39	18.35	34.77	PASS
Band71	15MHz	QPSK	133297	1RB#0	22.14	18.10	34.77	PASS
Band71	15MHz	QPSK	133297	36RB#0	21.17	17.13	34.77	PASS
Band71	15MHz	QPSK	133297	36RB#39	21.18	17.14	34.77	PASS
Band71	15MHz	QPSK	133297	36RB#18	21.33	17.29	34.77	PASS
Band71	15MHz	QPSK	133297	75RB#0	21.34	17.30	34.77	PASS

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Band71	15MHz	QPSK	133397	1RB#74	21.85	17.81	34.77	PASS
Band71	15MHz	QPSK	133397	1RB#38	22.17	18.13	34.77	PASS
Band71	15MHz	QPSK	133397	1RB#0	22.12	18.08	34.77	PASS
Band71	15MHz	QPSK	133397	36RB#18	21.24	17.20	34.77	PASS
Band71	15MHz	QPSK	133397	36RB#0	21.28	17.24	34.77	PASS
Band71	15MHz	QPSK	133397	36RB#39	21.31	17.27	34.77	PASS
Band71	15MHz	QPSK	133397	75RB#0	21.27	17.23	34.77	PASS
Band71	15MHz	16QAM	133197	1RB#0	21.47	17.43	34.77	PASS
Band71	15MHz	16QAM	133197	1RB#74	21.60	17.56	34.77	PASS
Band71	15MHz	16QAM	133197	1RB#38	21.49	17.45	34.77	PASS
Band71	15MHz	16QAM	133197	36RB#0	20.15	16.11	34.77	PASS
Band71	15MHz	16QAM	133197	36RB#39	20.18	16.14	34.77	PASS
Band71	15MHz	16QAM	133197	36RB#18	20.17	16.13	34.77	PASS
Band71	15MHz	16QAM	133197	75RB#0	20.01	15.97	34.77	PASS
Band71	15MHz	16QAM	133297	1RB#38	21.49	17.45	34.77	PASS
Band71	15MHz	16QAM	133297	1RB#74	21.70	17.66	34.77	PASS
Band71	15MHz	16QAM	133297	1RB#0	21.76	17.72	34.77	PASS
Band71	15MHz	16QAM	133297	36RB#18	20.18	16.14	34.77	PASS
Band71	15MHz	16QAM	133297	36RB#0	20.30	16.26	34.77	PASS
Band71	15MHz	16QAM	133297	36RB#39	20.36	16.32	34.77	PASS
Band71	15MHz	16QAM	133297	75RB#0	20.25	16.21	34.77	PASS
Band71	15MHz	16QAM	133397	1RB#74	21.46	17.42	34.77	PASS
Band71	15MHz	16QAM	133397	1RB#0	21.68	17.64	34.77	PASS
Band71	15MHz	16QAM	133397	1RB#38	21.59	17.55	34.77	PASS
Band71	15MHz	16QAM	133397	36RB#0	20.30	16.26	34.77	PASS
Band71	15MHz	16QAM	133397	36RB#39	20.21	16.17	34.77	PASS
Band71	15MHz	16QAM	133397	36RB#18	20.35	16.31	34.77	PASS
Band71	15MHz	16QAM	133397	75RB#0	20.25	16.21	34.77	PASS
Band71	20MHz	QPSK	133222	1RB#99	22.19	18.15	34.77	PASS
Band71	20MHz	QPSK	133222	1RB#49	22.48	18.44	34.77	PASS
Band71	20MHz	QPSK	133222	1RB#0	22.26	18.22	34.77	PASS
Band71	20MHz	QPSK	133222	50RB#25	21.25	17.21	34.77	PASS
Band71	20MHz	QPSK	133222	50RB#0	21.33	17.29	34.77	PASS
Band71	20MHz	QPSK	133222	50RB#50	21.39	17.35	34.77	PASS
Band71	20MHz	QPSK	133222	100RB#0	21.29	17.25	34.77	PASS
Band71	20MHz	QPSK	133322	1RB#99	22.21	18.17	34.77	PASS
Band71	20MHz	QPSK	133322	1RB#0	22.54	18.50	34.77	PASS
Band71	20MHz	QPSK	133322	1RB#49	22.32	18.28	34.77	PASS
Band71	20MHz	QPSK	133322	50RB#25	21.41	17.37	34.77	PASS
Band71	20MHz	QPSK	133322	50RB#0	21.39	17.35	34.77	PASS
Band71	20MHz	QPSK	133322	50RB#50	21.56	17.52	34.77	PASS
Band71	20MHz	QPSK	133322	100RB#0	21.46	17.42	34.77	PASS
Band71	20MHz	QPSK	133372	1RB#0	22.10	18.06	34.77	PASS
Band71	20MHz	QPSK	133372	1RB#49	22.39	18.35	34.77	PASS
Band71	20MHz	QPSK	133372	1RB#99	22.25	18.21	34.77	PASS
Band71	20MHz	QPSK	133372	50RB#0	21.48	17.44	34.77	PASS
Band71	20MHz	QPSK	133372	50RB#25	21.39	17.35	34.77	PASS
Band71	20MHz	QPSK	133372	50RB#50	21.55	17.51	34.77	PASS
Band71	20MHz	QPSK	133372	100RB#0	21.49	17.45	34.77	PASS
Band71	20MHz	16QAM	133222	1RB#0	21.60	17.56	34.77	PASS
Band71	20MHz	16QAM	133222	1RB#49	21.79	17.75	34.77	PASS
Band71	20MHz	16QAM	133222	1RB#99	21.71	17.67	34.77	PASS
Band71	20MHz	16QAM	133222	50RB#50	20.28	16.24	34.77	PASS

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Band71	20MHz	16QAM	133222	50RB#0	20.35	16.31	34.77	PASS
Band71	20MHz	16QAM	133222	50RB#25	20.31	16.27	34.77	PASS
Band71	20MHz	16QAM	133222	100RB#0	20.26	16.22	34.77	PASS
Band71	20MHz	16QAM	133322	1RB#0	21.71	17.67	34.77	PASS
Band71	20MHz	16QAM	133322	1RB#49	21.88	17.84	34.77	PASS
Band71	20MHz	16QAM	133322	1RB#99	21.87	17.83	34.77	PASS
Band71	20MHz	16QAM	133322	50RB#0	20.41	16.37	34.77	PASS
Band71	20MHz	16QAM	133322	50RB#50	20.42	16.38	34.77	PASS
Band71	20MHz	16QAM	133322	50RB#25	20.52	16.48	34.77	PASS
Band71	20MHz	16QAM	133322	100RB#0	20.44	16.40	34.77	PASS
Band71	20MHz	16QAM	133372	1RB#0	21.64	17.60	34.77	PASS
Band71	20MHz	16QAM	133372	1RB#99	21.83	17.79	34.77	PASS
Band71	20MHz	16QAM	133372	1RB#49	21.78	17.74	34.77	PASS
Band71	20MHz	16QAM	133372	50RB#0	20.51	16.47	34.77	PASS
Band71	20MHz	16QAM	133372	50RB#25	20.39	16.35	34.77	PASS
Band71	20MHz	16QAM	133372	50RB#50	20.58	16.54	34.77	PASS
Band71	20MHz	16QAM	133372	100RB#0	20.49	16.45	34.77	PASS

Remark:

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

$$\text{ERP [dBm]} = \text{Conducted Power [dBm]} + \text{Gain [dBd]}$$

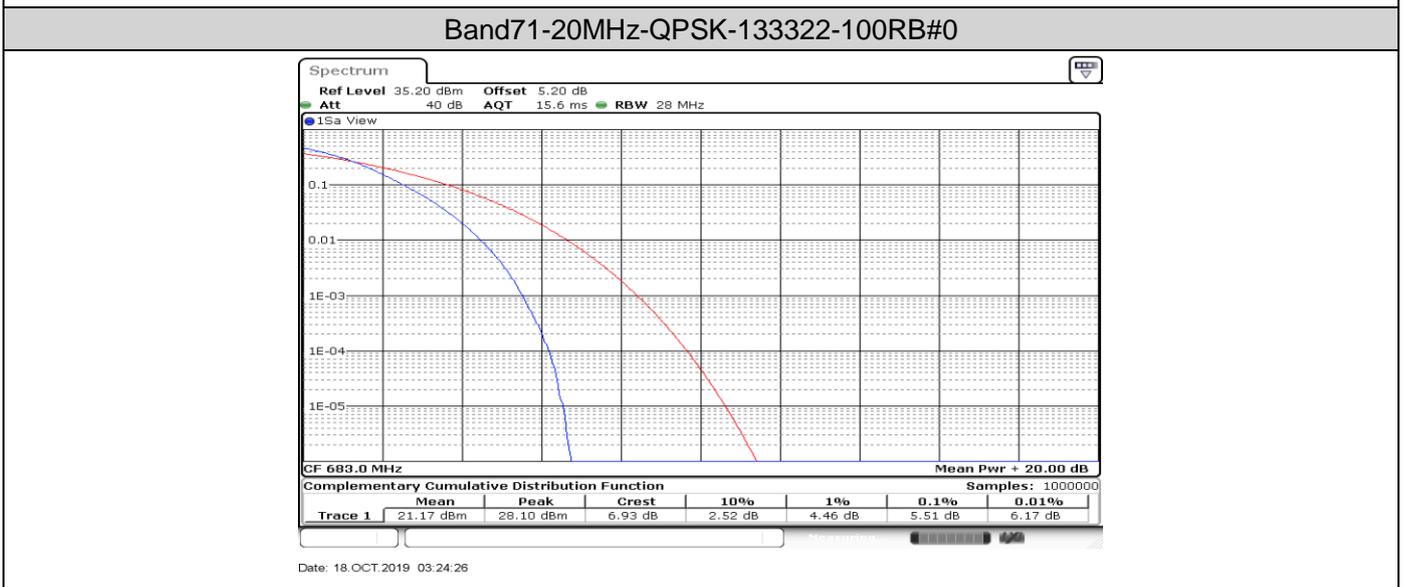
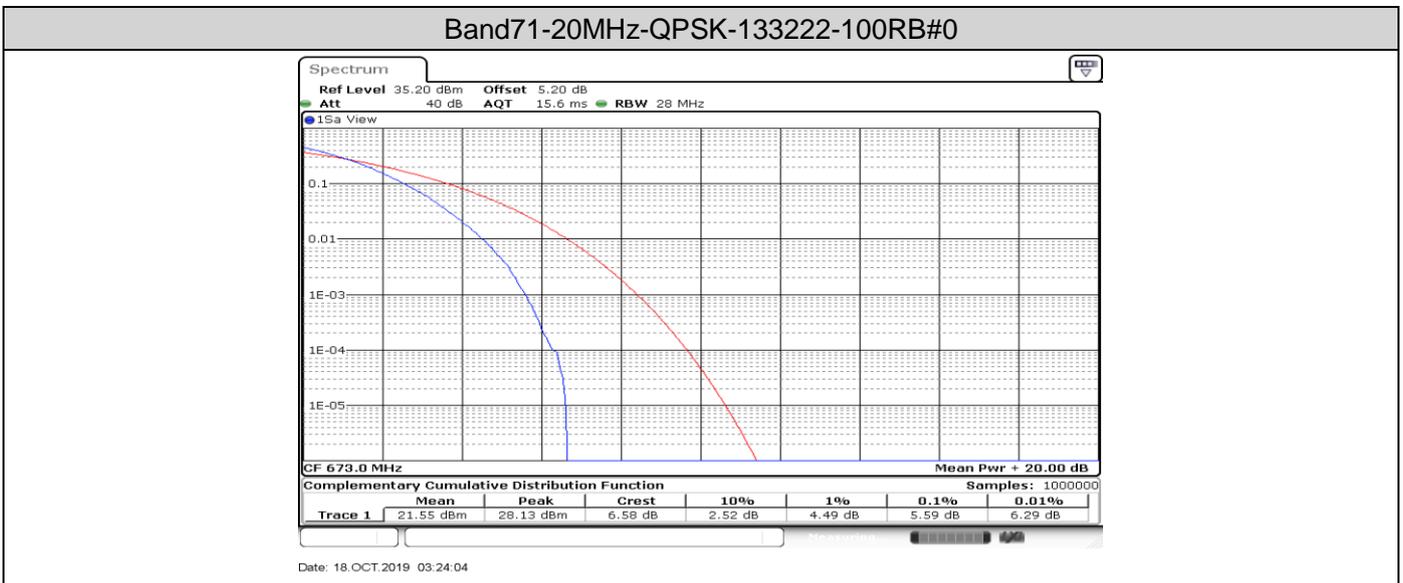
$$\text{EIRP [dBm]} = \text{Conducted Power [dBm]} + \text{Gain [dBi]}$$

4. Peak-to-Average Ratio (CCDF)

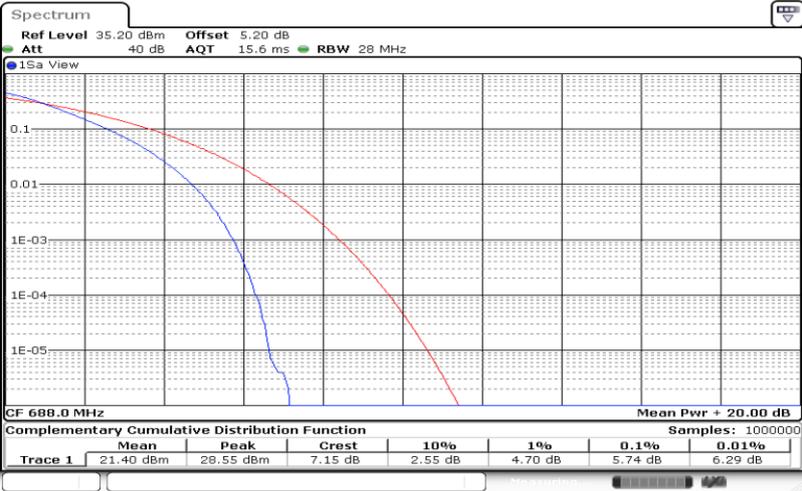
4.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band71	20MHz	QPSK	133222	100RB#0	5.59	13	PASS
Band71	20MHz	QPSK	133322	100RB#0	5.51	13	PASS
Band71	20MHz	QPSK	133372	100RB#0	5.74	13	PASS
Band71	20MHz	16QAM	133222	100RB#0	6.29	13	PASS
Band71	20MHz	16QAM	133322	100RB#0	6.29	13	PASS
Band71	20MHz	16QAM	133372	100RB#0	6.41	13	PASS

4.2. Test Plots

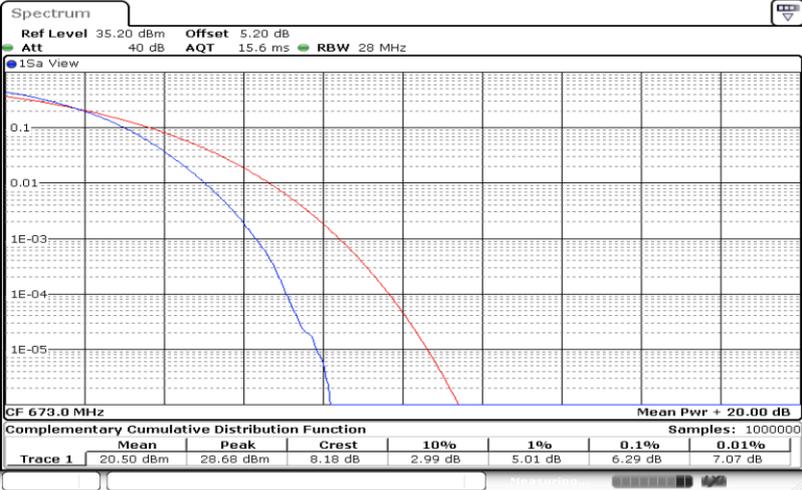


Band71-20MHz-QPSK-133372-100RB#0



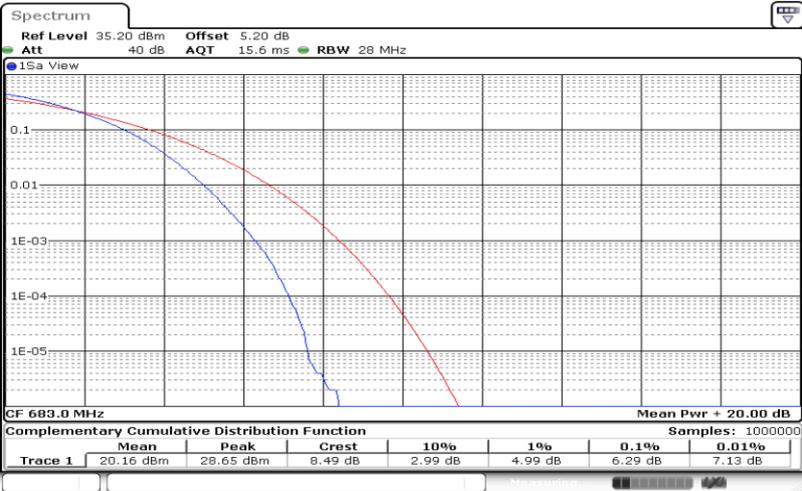
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Band71-20MHz-16QAM-133222-100RB#0



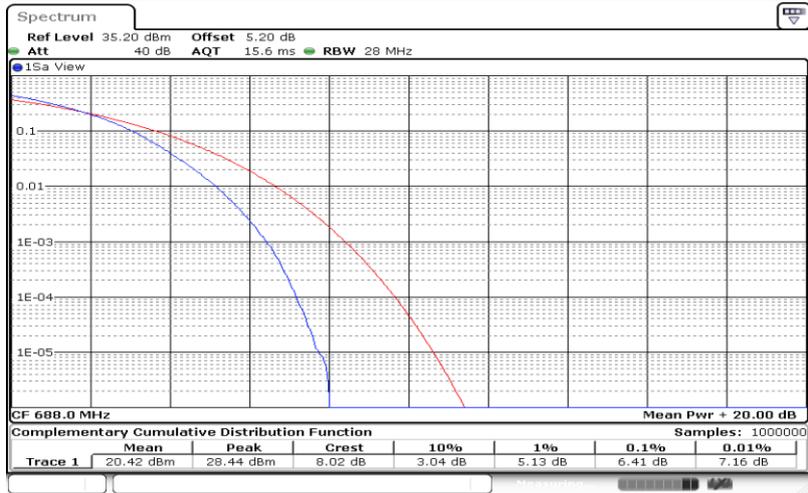
Date: 18.OCT.2019 03:24:15

Band71-20MHz-16QAM-133322-100RB#0



Date: 18.OCT.2019 03:24:37

Band71-20MHz-16QAM-133372-100RB#0

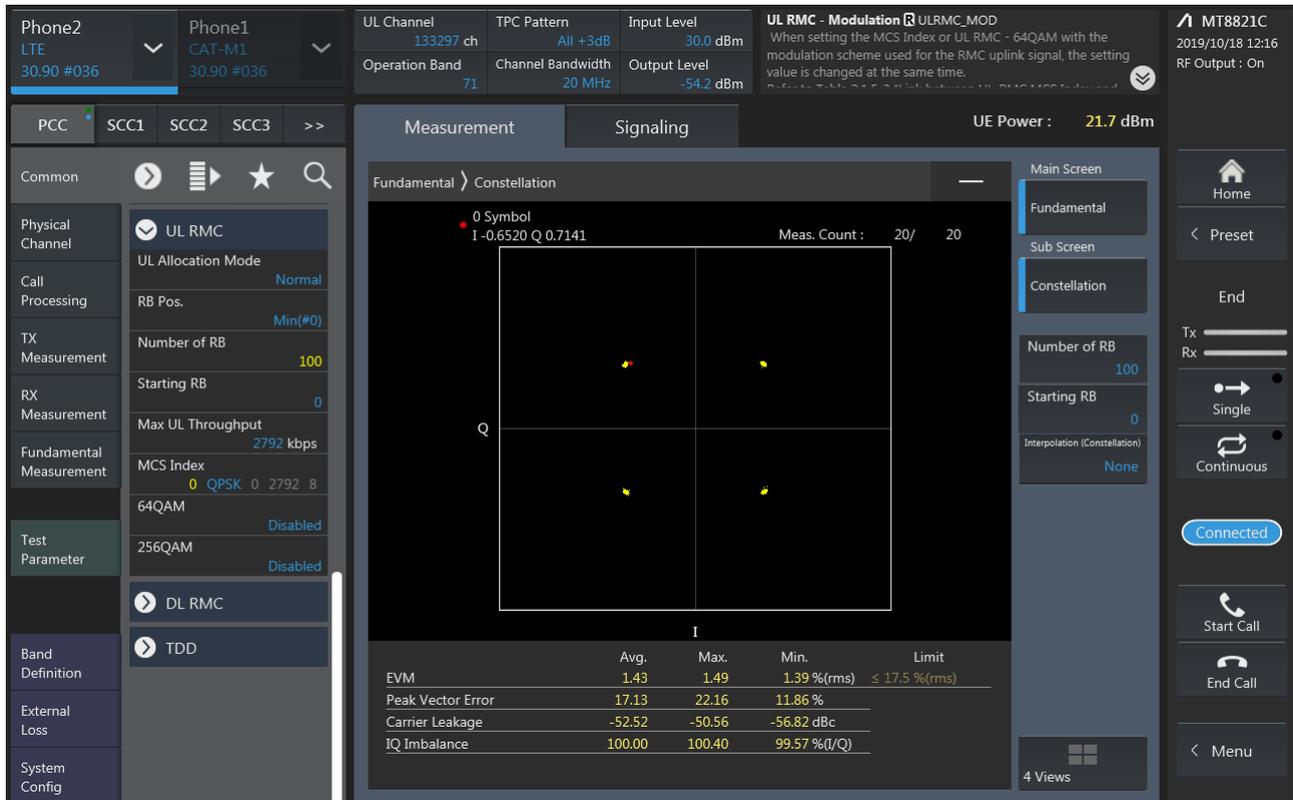


Date: 18.OCT.2019 03:24:59

5. Modulation Characteristics

5.1. Test Mode = LTE /TM1 20MHz

5.1.1. Test Channel = MCH



5.2. Test Mode = LTE /TM2 20MHz

5.2.1. Test Channel = MCH

The screenshot displays a mobile testing software interface with the following sections:

- Top Bar:** Phone2 (LTE 30.90 #036), Phone1 (CAT-M1 30.90 #036), UL Channel (133297 ch), TPC Pattern (All +3dB), Input Level (30.0 dBm), Operation Band (71), Channel Bandwidth (20 MHz), Output Level (-54.2 dBm), UL RMC - Modulation (ULRMC_MOD), and MT8821C (2019/10/18 12:16, RF Output: On).
- Measurement/Signaling:** UE Power: 20.7 dBm.
- Left Panel (Configuration):**
 - Physical Channel: UL RMC (UL Allocation Mode: Normal)
 - Call Processing: RB Pos. (Min(#0))
 - TX Measurement: Number of RB (100)
 - RX Measurement: Starting RB (0), Max UL Throughput (17568 kbps)
 - Fundamental Measurement: MCS Index (11 16QAM 10 17568 8), 64QAM (Disabled), 256QAM (Disabled)
 - Test Parameter: DL RMC, TDD
 - Band Definition, External Loss, System Config
- Main Display (Constellation):**
 - 0 Symbol: I -0.8980 Q 0.9538
 - Meas. Count: 20/ 20
 - Constellation diagram showing a 2x2 grid of points.
- Bottom Panel (Metrics):**

	Avg.	Max.	Min.	Limit
EVM	1.87	1.93	1.84 %(rms)	≤ 12.5 %(rms)
Peak Vector Error	20.14	26.32	13.19 %	
Carrier Leakage	-47.74	-46.12	-49.72 dBc	
IQ Imbalance	100.02	100.42	99.55 %(I/Q)	
- Right Panel (Controls):** Home, Preset, End, Tx/Rx sliders, Single/Continuous modes, Connected status, Start/End Call buttons, Menu.

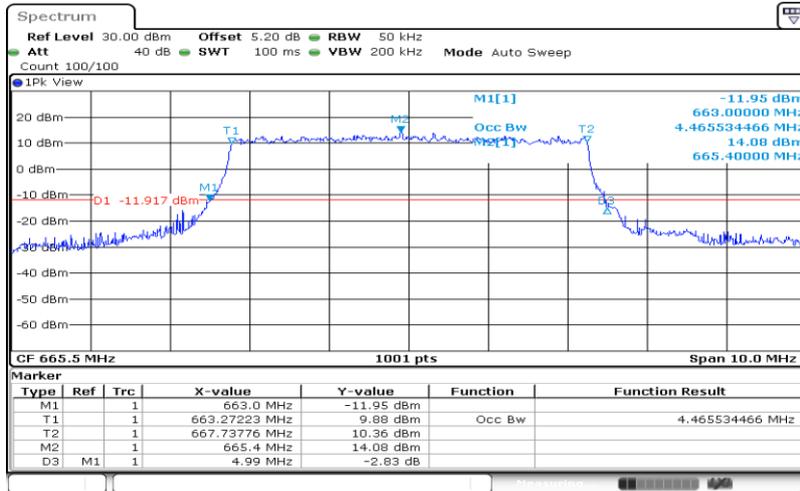
6. 26dB Bandwidth and Occupied Bandwidth

6.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band71	5MHz	QPSK	133147	25RB#0	4.466	4.990	PASS
Band71	5MHz	QPSK	133297	25RB#0	4.466	5.080	PASS
Band71	5MHz	QPSK	133447	25RB#0	4.466	4.970	PASS
Band71	5MHz	16QAM	133147	25RB#0	4.496	5.060	PASS
Band71	5MHz	16QAM	133297	25RB#0	4.496	5.060	PASS
Band71	5MHz	16QAM	133447	25RB#0	4.476	5.050	PASS
Band71	10MHz	QPSK	133172	50RB#0	8.951	9.820	PASS
Band71	10MHz	QPSK	133297	50RB#0	8.911	9.840	PASS
Band71	10MHz	QPSK	133422	50RB#0	8.891	9.780	PASS
Band71	10MHz	16QAM	133172	50RB#0	8.931	9.880	PASS
Band71	10MHz	16QAM	133297	50RB#0	8.911	9.820	PASS
Band71	10MHz	16QAM	133422	50RB#0	8.891	9.780	PASS
Band71	15MHz	QPSK	133197	75RB#0	13.546	15.210	PASS
Band71	15MHz	QPSK	133297	75RB#0	13.397	14.940	PASS
Band71	15MHz	QPSK	133397	75RB#0	13.457	15.150	PASS
Band71	15MHz	16QAM	133197	75RB#0	13.546	15.210	PASS
Band71	15MHz	16QAM	133297	75RB#0	13.397	14.880	PASS
Band71	15MHz	16QAM	133397	75RB#0	13.487	15.540	PASS
Band71	20MHz	QPSK	133222	100RB#0	17.862	19.480	PASS
Band71	20MHz	QPSK	133322	100RB#0	17.862	19.640	PASS
Band71	20MHz	QPSK	133372	100RB#0	18.022	20.680	PASS
Band71	20MHz	16QAM	133222	100RB#0	17.902	19.440	PASS
Band71	20MHz	16QAM	133322	100RB#0	17.862	19.520	PASS
Band71	20MHz	16QAM	133372	100RB#0	17.982	19.720	PASS

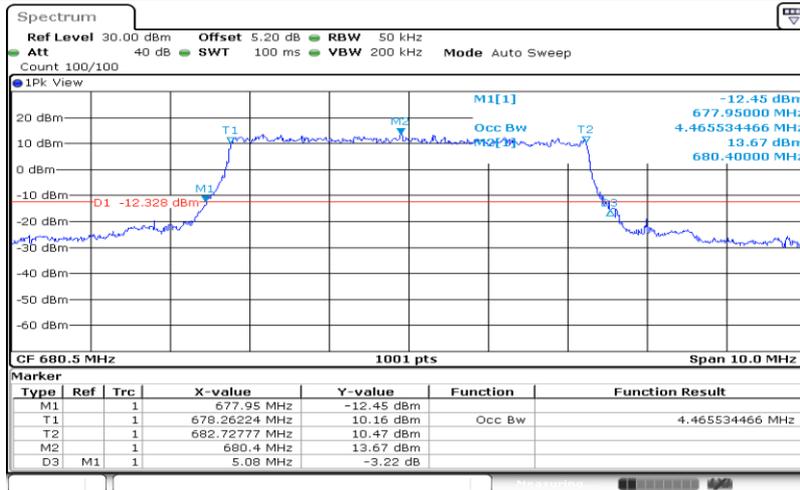
6.2. Test Plots

Band71-5MHz-QPSK-133147-25RB#0-4.466



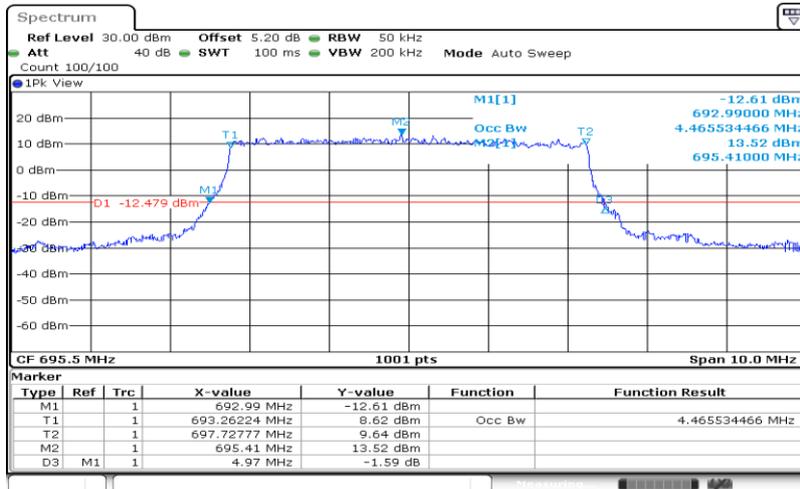
Date: 18.OCT.2019 02:58:23

Band71-5MHz-QPSK-133297-25RB#0-4.466



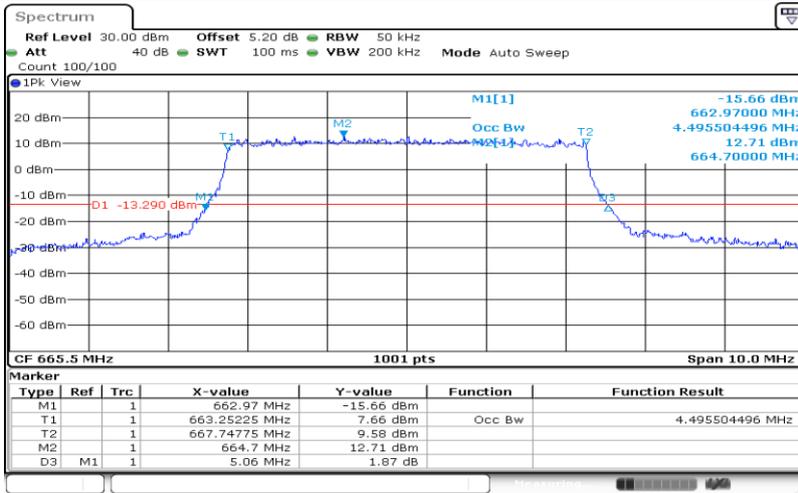
Date: 18.OCT.2019 02:59:03

Band71-5MHz-QPSK-133447-25RB#0-4.466



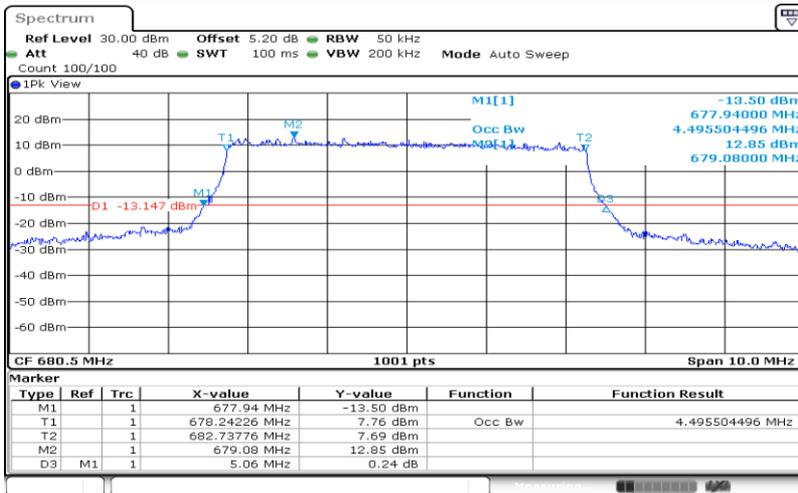
Date: 18.OCT.2019 02:59:42

Band71-5MHz-16QAM-133147-25RB#0-4.496



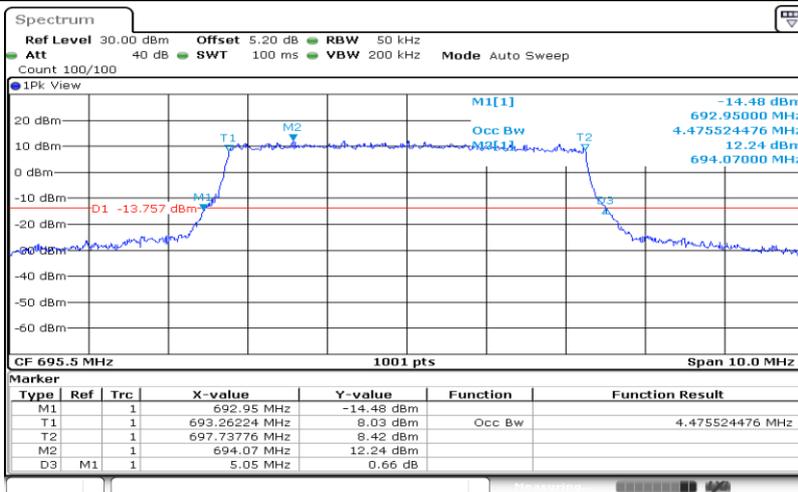
Date: 18.OCT.2019 02:58:43

Band71-5MHz-16QAM-133297-25RB#0-4.496



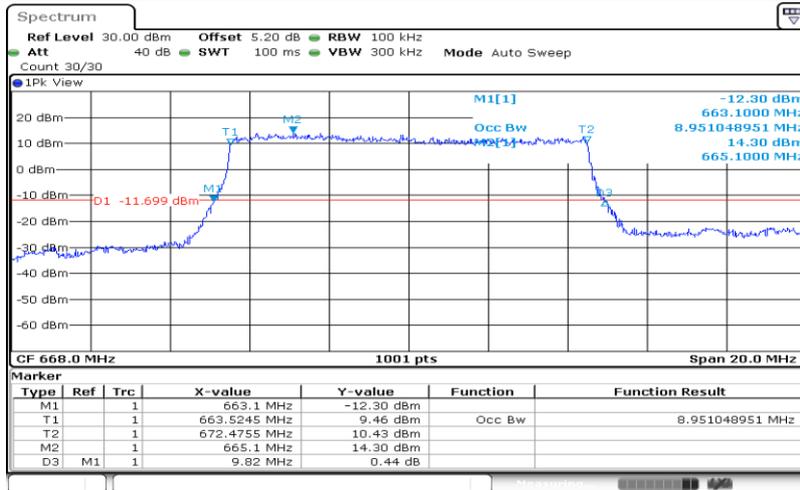
Date: 18.OCT.2019 02:59:22

Band71-5MHz-16QAM-133447-25RB#0-4.476

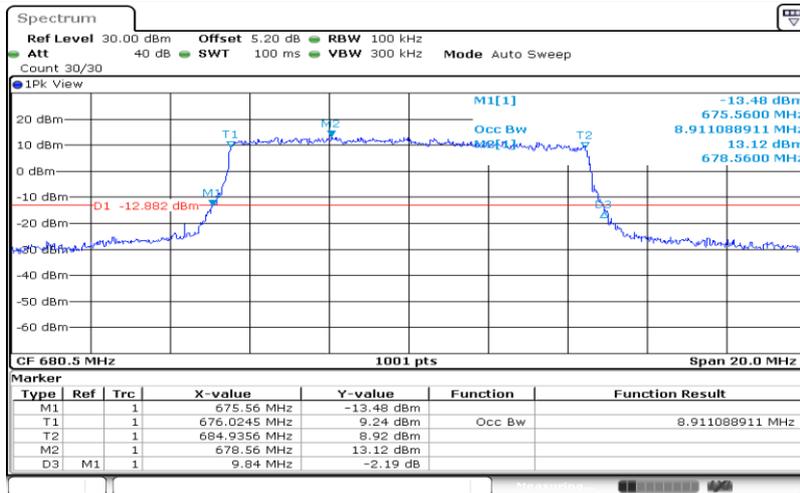


Date: 18.OCT.2019 03:00:02

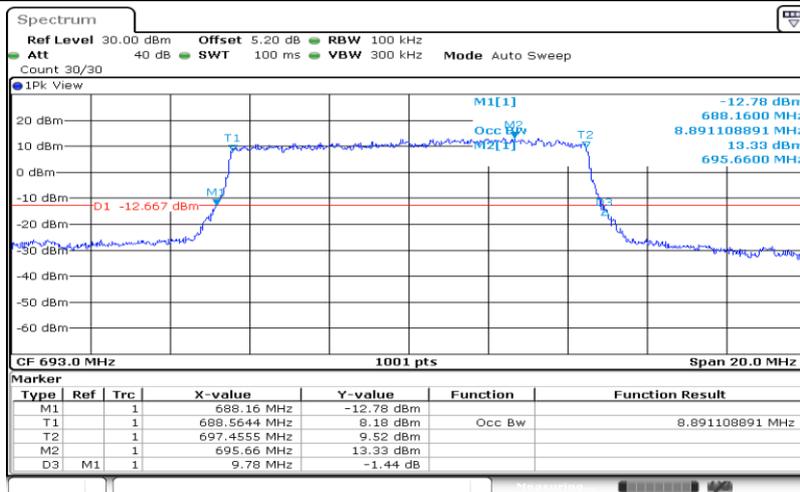
Band71-10MHz-QPSK-133172-50RB#0-8.951



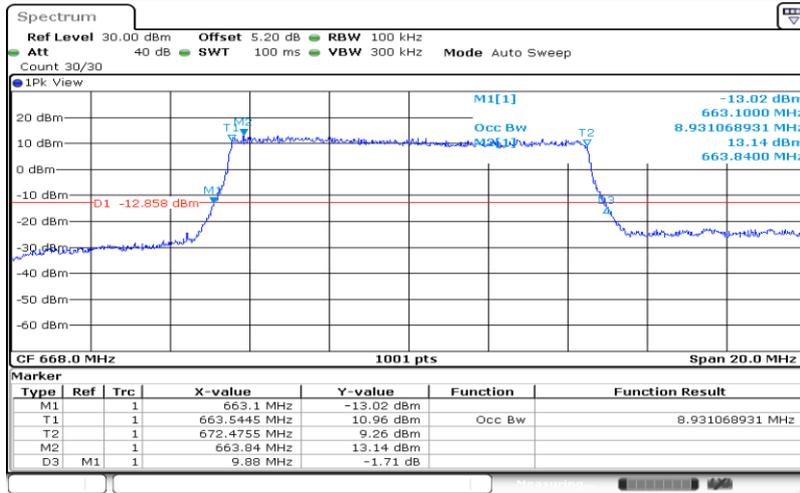
Band71-10MHz-QPSK-133297-50RB#0-8.911



Band71-10MHz-QPSK-133422-50RB#0-8.891

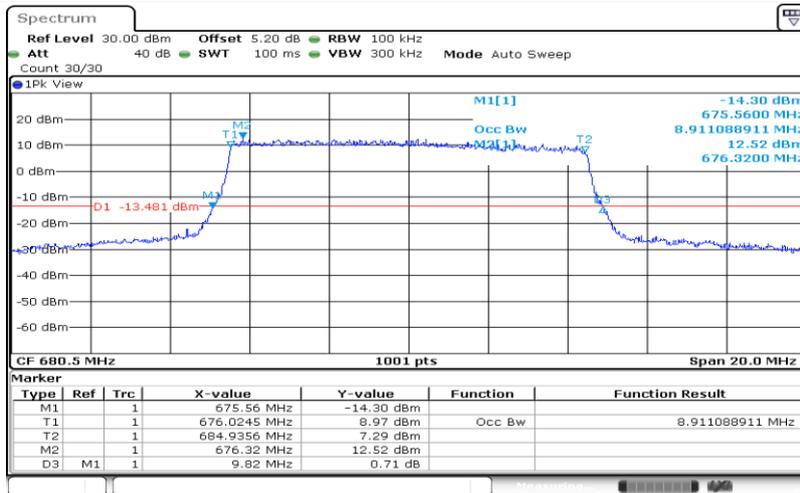


Band71-10MHz-16QAM-133172-50RB#0-8.931



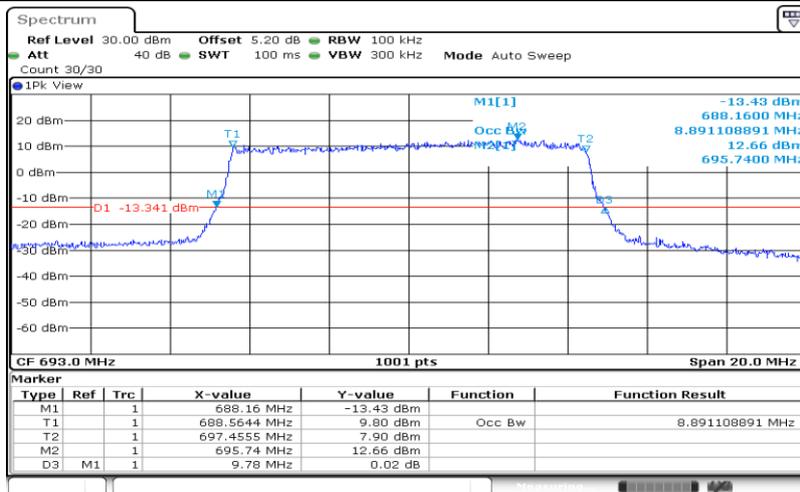
Date: 18.OCT.2019 03:00:32

Band71-10MHz-16QAM-133297-50RB#0-8.911



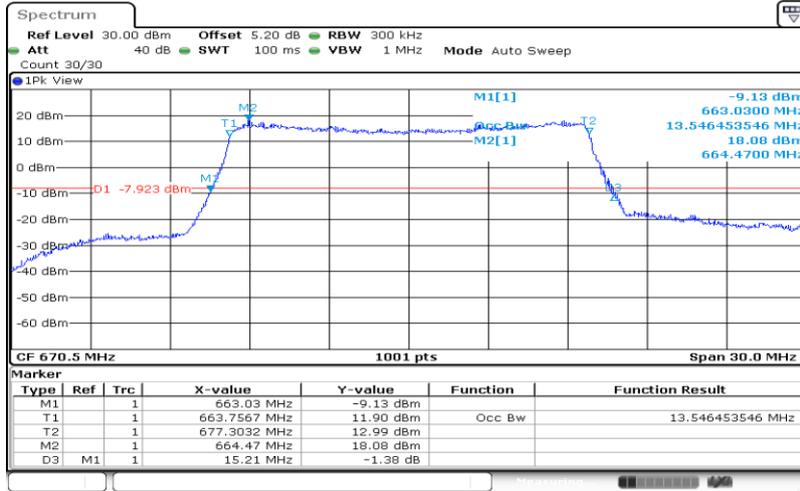
Date: 18.OCT.2019 03:00:57

Band71-10MHz-16QAM-133422-50RB#0-8.891



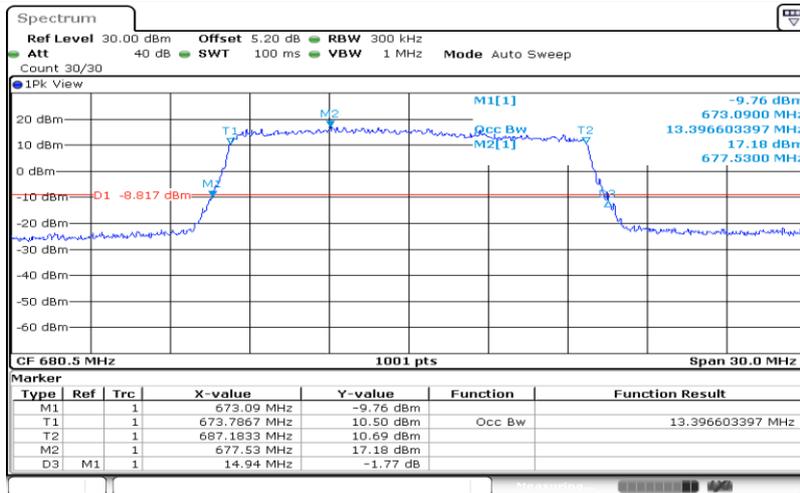
Date: 18.OCT.2019 03:01:23

Band71-15MHz-QPSK-133197-75RB#0-13.546



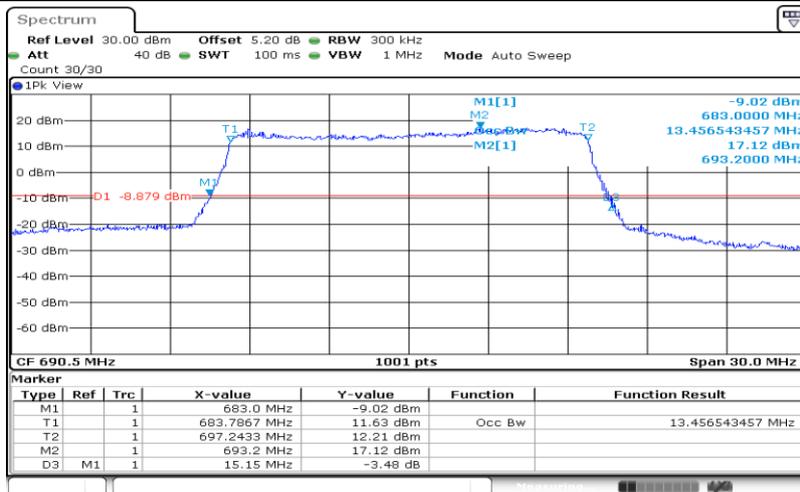
Date: 18.OCT.2019 03:01:40

Band71-15MHz-QPSK-133297-75RB#0-13.397



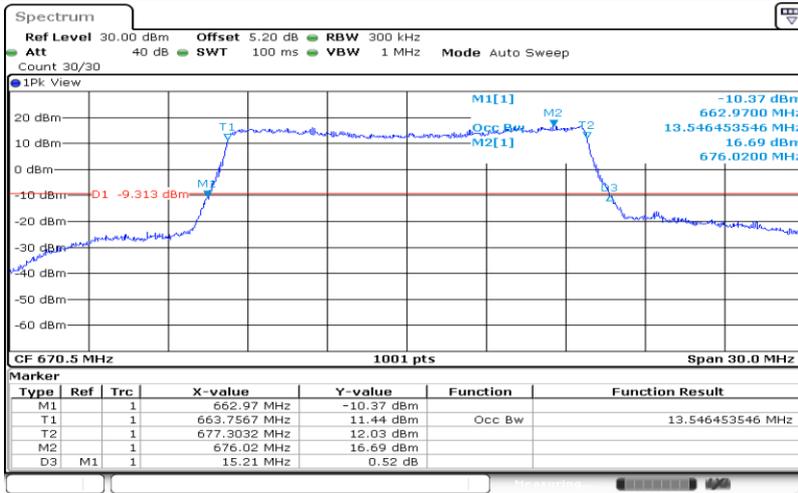
Date: 18.OCT.2019 03:02:05

Band71-15MHz-QPSK-133397-75RB#0-13.457



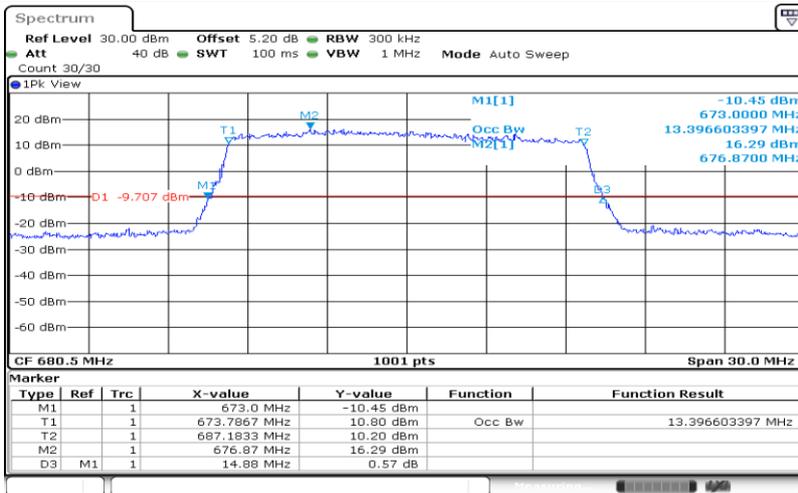
Date: 18.OCT.2019 03:02:31

Band71-15MHz-16QAM-133197-75RB#0-13.546



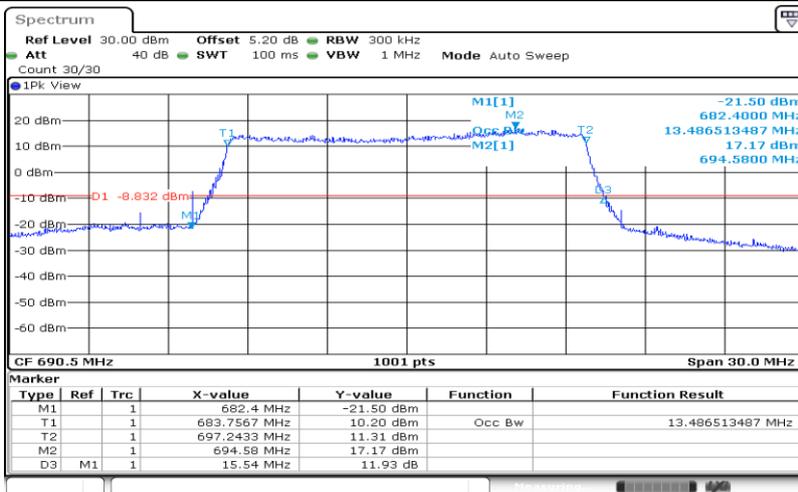
Date: 18.OCT.2019 03:01:53

Band71-15MHz-16QAM-133297-75RB#0-13.397



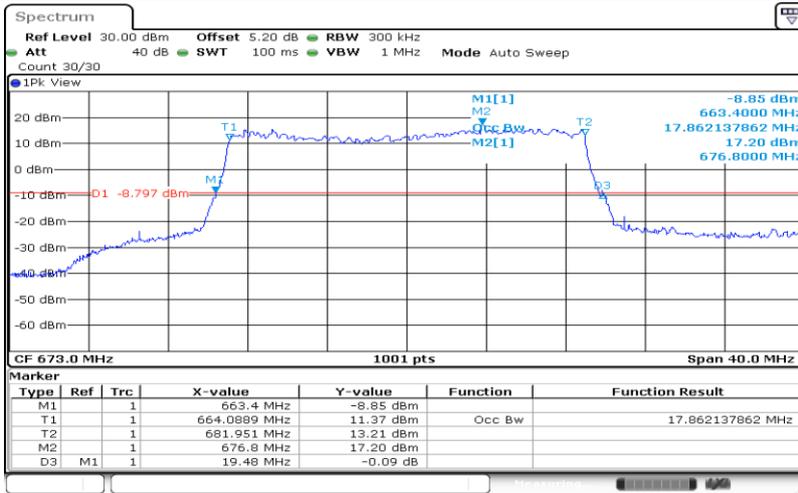
Date: 18.OCT.2019 03:02:18

Band71-15MHz-16QAM-133397-75RB#0-13.487



Date: 18.OCT.2019 03:02:43

Band71-20MHz-QPSK-133222-100RB#0-17.862



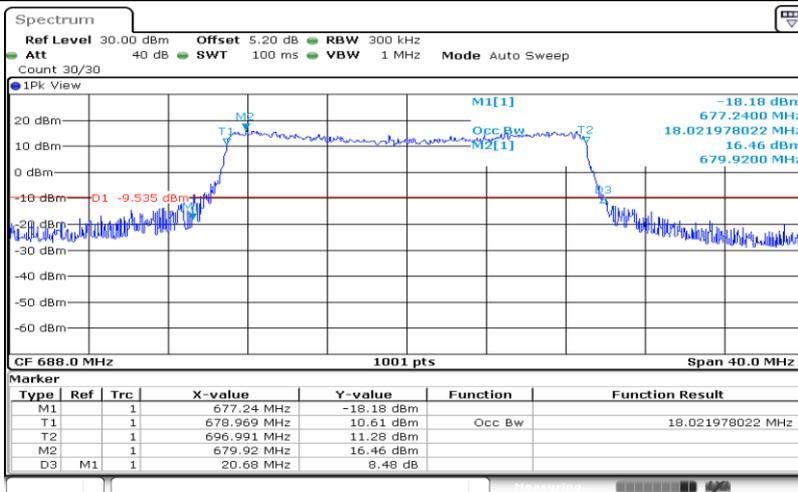
Date: 18.OCT.2019 03:03:01

Band71-20MHz-QPSK-133322-100RB#0-17.862



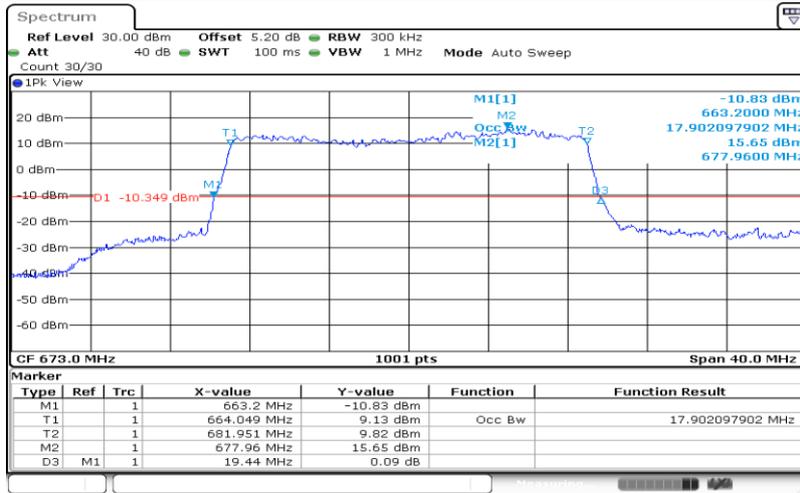
Date: 18.OCT.2019 03:03:26

Band71-20MHz-QPSK-133372-100RB#0-18.022



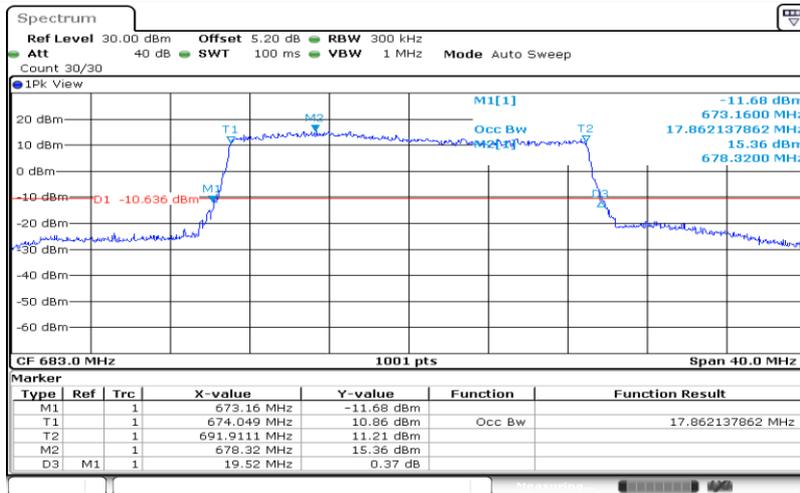
Date: 18.OCT.2019 03:03:52

Band71-20MHz-16QAM-133222-100RB#0-17.902



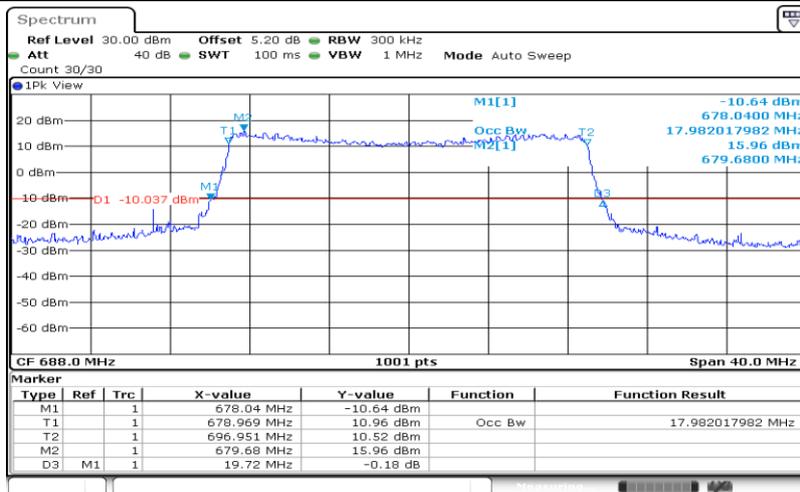
Date: 18.OCT.2019 03:03:13

Band71-20MHz-16QAM-133322-100RB#0-17.862



Date: 18.OCT.2019 03:03:39

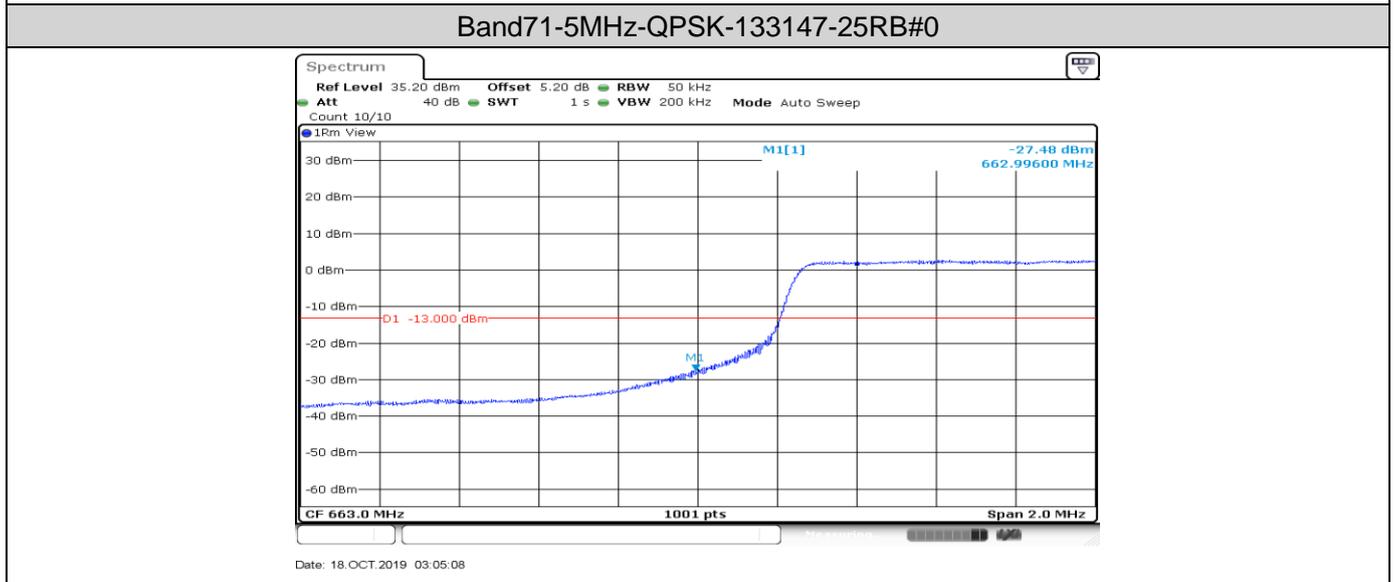
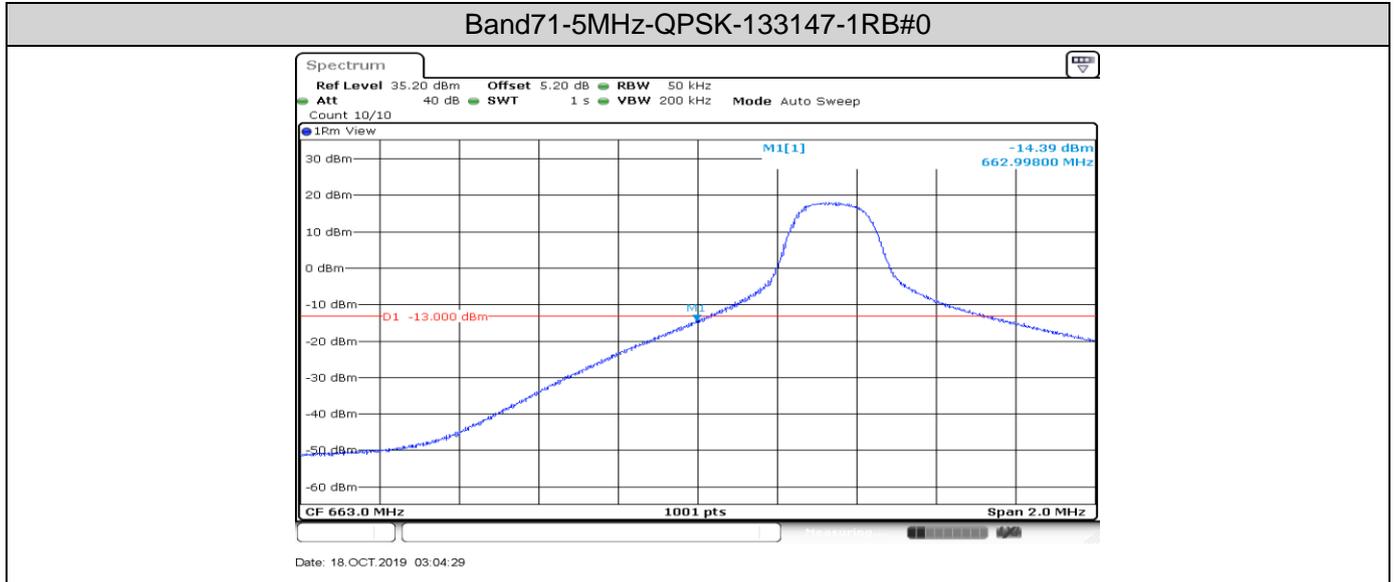
Band71-20MHz-16QAM-133372-100RB#0-17.982



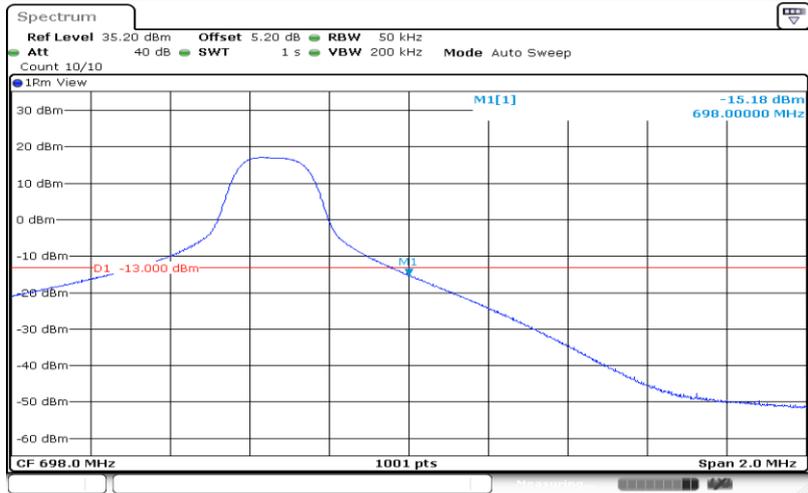
Date: 18.OCT.2019 03:04:04

7. Band Edge Compliance

7.1. Test Plots



Band71-5MHz-QPSK-133447-1RB#24



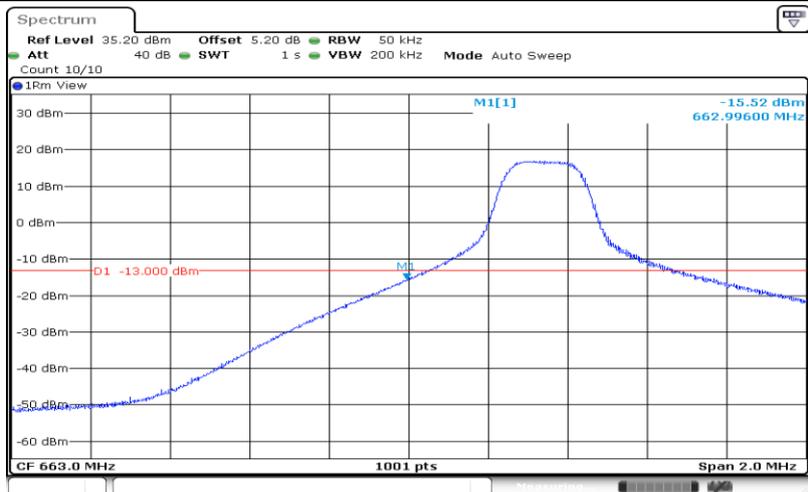
Date: 18.OCT.2019 03:05:51

Band71-5MHz-QPSK-133447-25RB#0



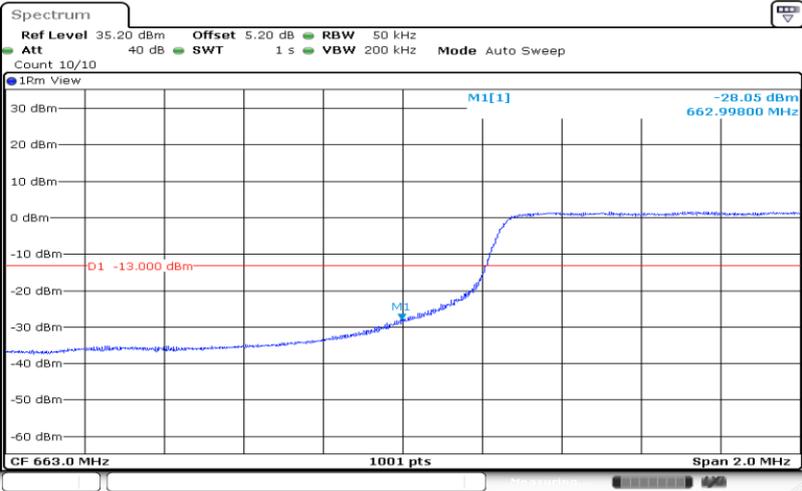
Date: 18.OCT.2019 03:06:30

Band71-5MHz-16QAM-133147-1RB#0



Date: 18.OCT.2019 03:04:48

Band71-5MHz-16QAM-133147-25RB#0



Date: 18.OCT.2019 03:05:27

Band71-5MHz-16QAM-133447-1RB#24



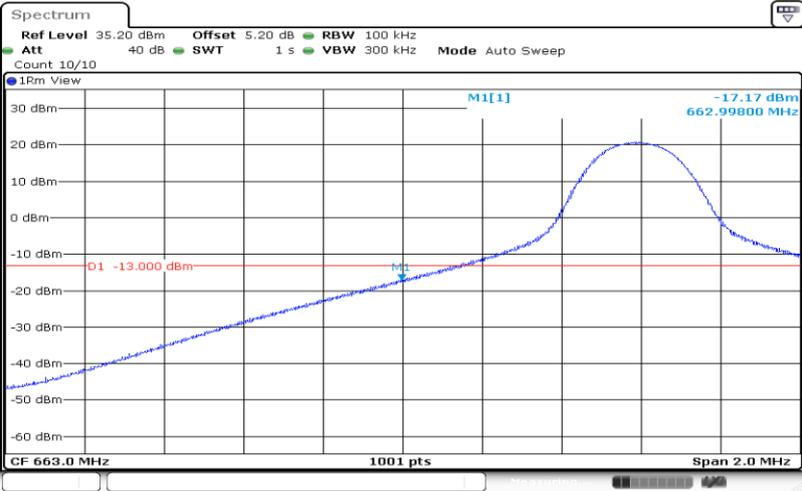
Date: 18.OCT.2019 03:06:10

Band71-5MHz-16QAM-133447-25RB#0



Date: 18.OCT.2019 03:06:49

Band71-10MHz-QPSK-133172-1RB#0



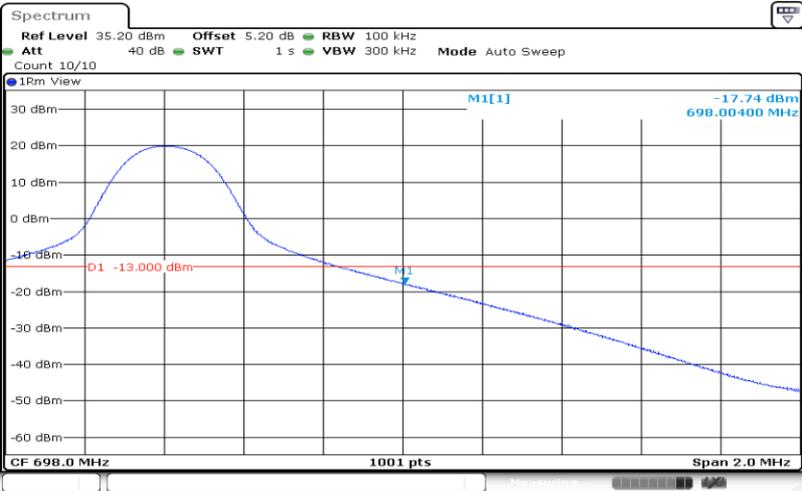
Date: 18.OCT.2019 03:07:14

Band71-10MHz-QPSK-133172-50RB#0



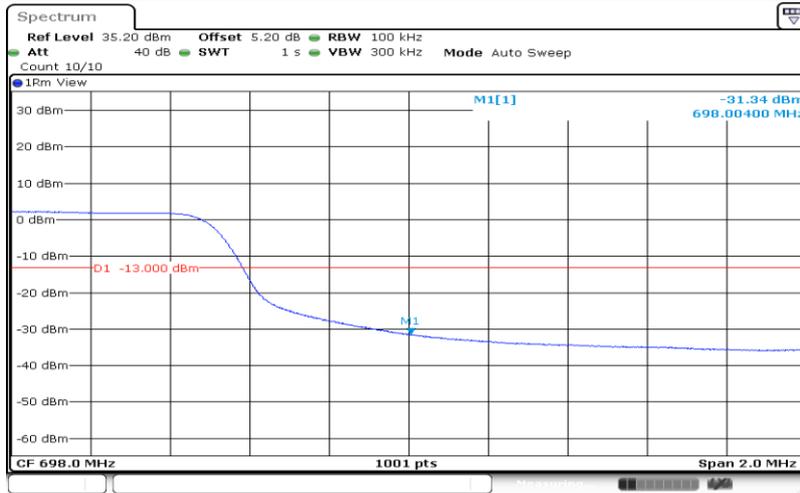
Date: 18.OCT.2019 03:07:52

Band71-10MHz-QPSK-133422-1RB#49



Date: 18.OCT.2019 03:08:36

Band71-10MHz-QPSK-133422-50RB#0



Date: 18.OCT.2019 03:09:15

Band71-10MHz-16QAM-133172-1RB#0



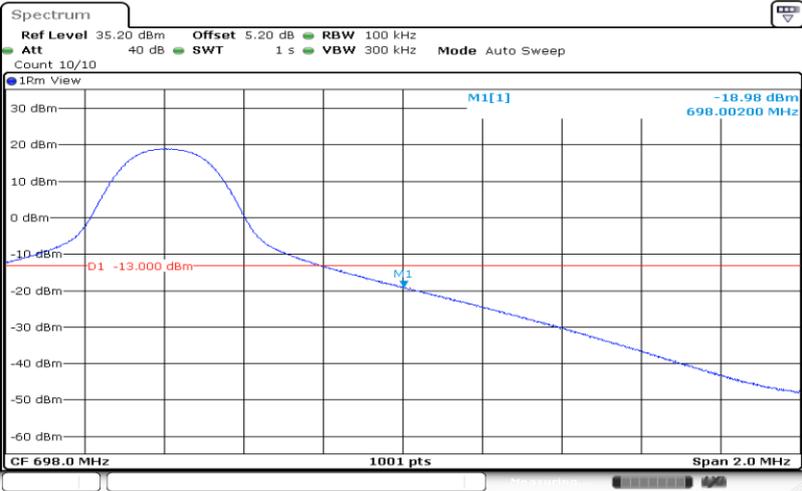
Date: 18.OCT.2019 03:07:33

Band71-10MHz-16QAM-133172-50RB#0



Date: 18.OCT.2019 03:08:12

Band71-10MHz-16QAM-133422-1RB#49



Date: 18.OCT.2019 03:08:55

Band71-10MHz-16QAM-133422-50RB#0



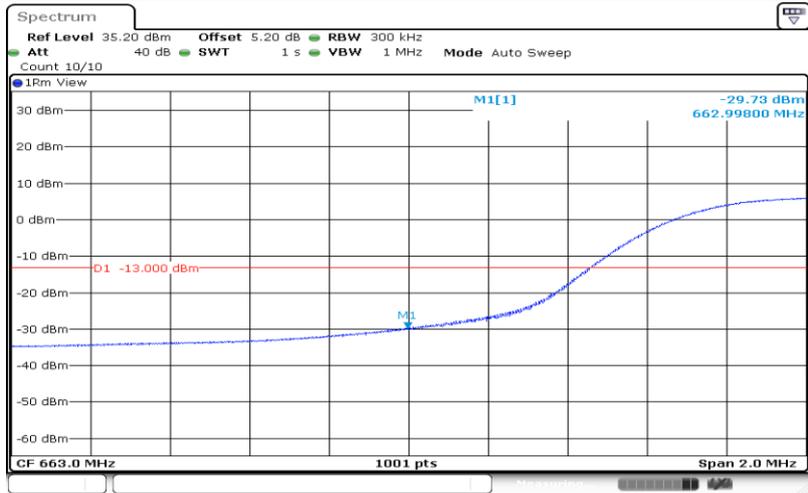
Date: 18.OCT.2019 03:09:34

Band71-15MHz-QPSK-133197-1RB#0



Date: 18.OCT.2019 03:09:58

Band71-15MHz-QPSK-133197-75RB#0



Date: 18.OCT.2019 03:10:37

Band71-15MHz-QPSK-133397-1RB#74



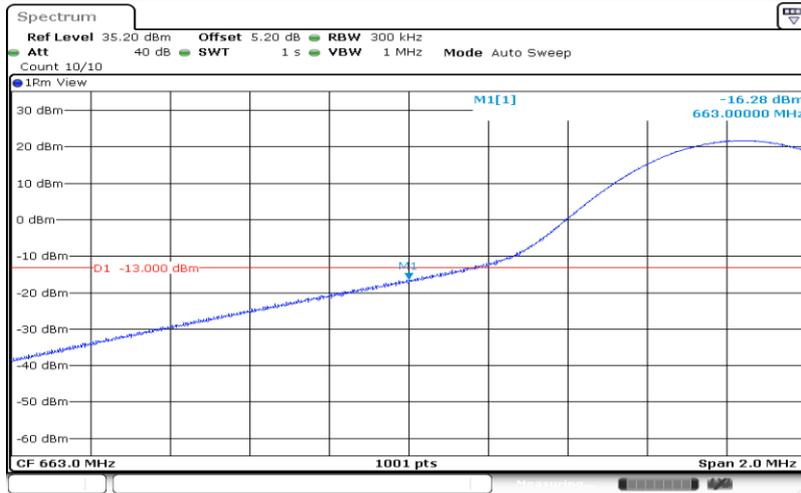
Date: 18.OCT.2019 03:11:20

Band71-15MHz-QPSK-133397-75RB#0



Date: 18.OCT.2019 03:11:59

Band71-15MHz-16QAM-133197-1RB#0



Date: 18.OCT.2019 03:10:18

Band71-15MHz-16QAM-133197-75RB#0



Date: 18.OCT.2019 03:10:56

Band71-15MHz-16QAM-133397-1RB#74



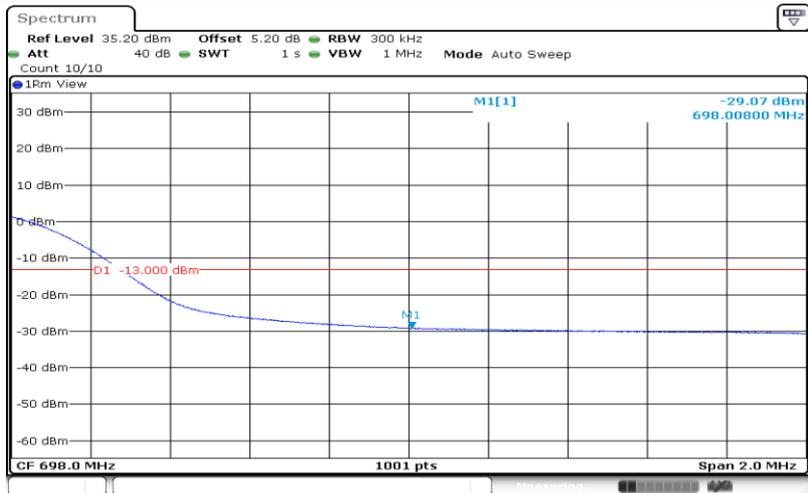
Date: 18.OCT.2019 03:11:40

Band71-20MHz-QPSK-133372-1RB#99



Date: 18.OCT.2019 03:14:05

Band71-20MHz-QPSK-133372-100RB#0



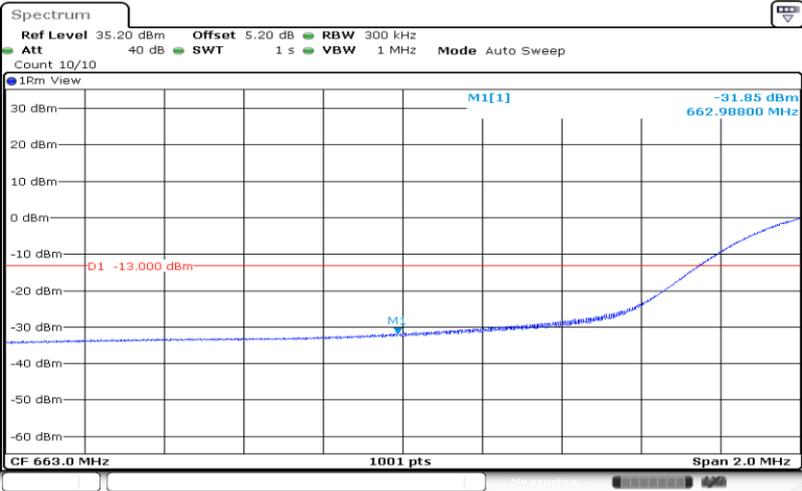
Date: 18.OCT.2019 03:14:43

Band71-20MHz-16QAM-133222-1RB#0



Date: 18.OCT.2019 03:13:02

Band71-20MHz-16QAM-133222-100RB#0



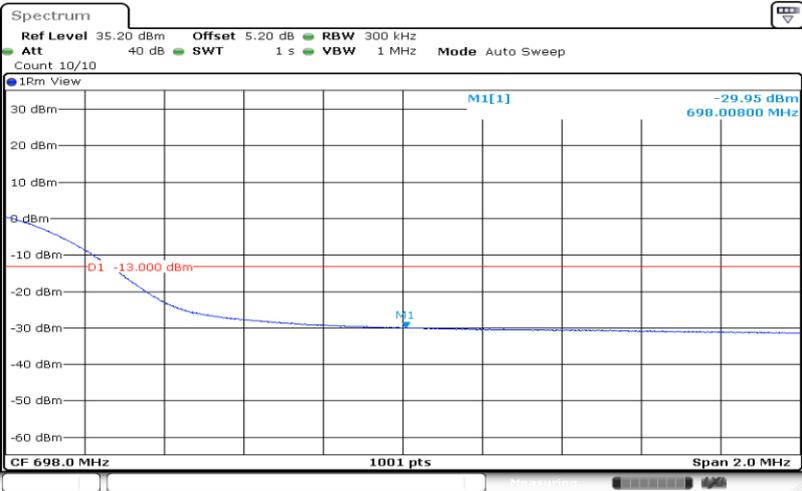
Date: 18.OCT.2019 03:13:41

Band71-20MHz-16QAM-133372-1RB#99



Date: 18.OCT.2019 03:14:24

Band71-20MHz-16QAM-133372-100RB#0



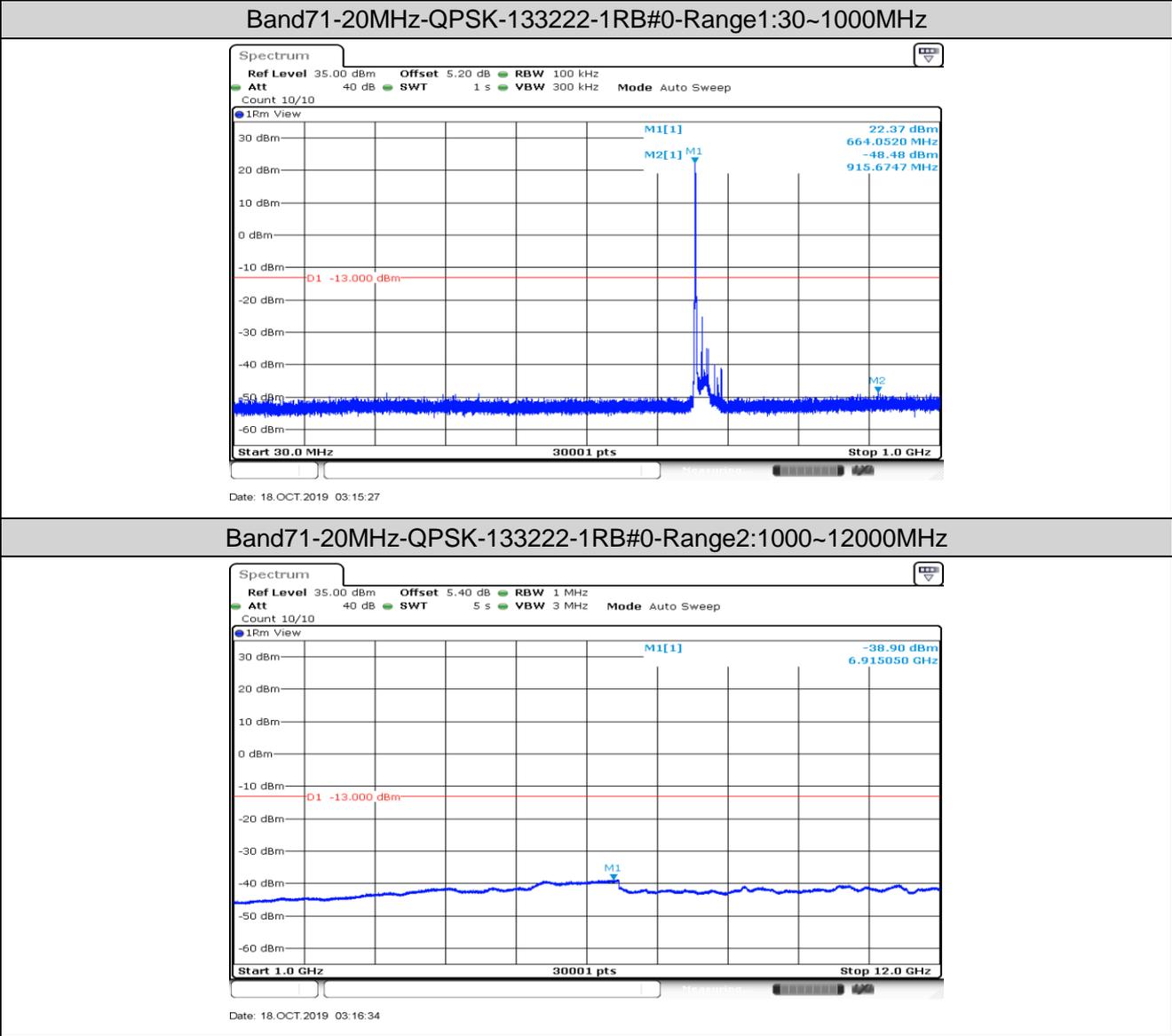
Date: 18.OCT.2019 03:15:03

8. Spurious Emission at Antenna Terminal

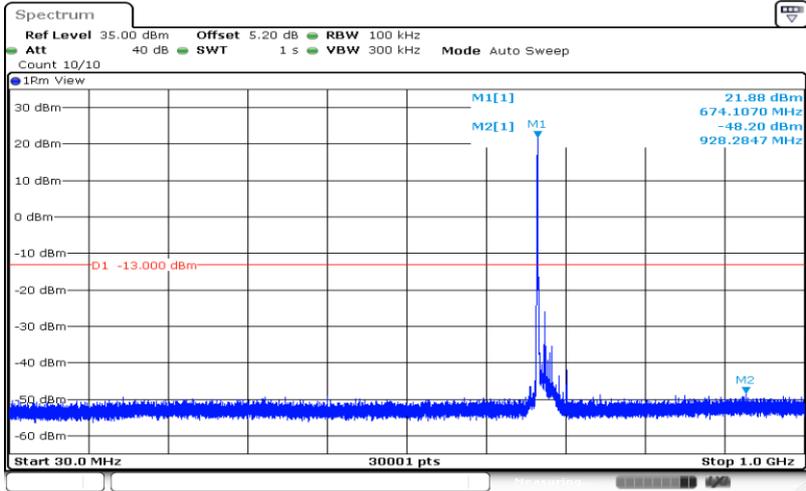
Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of < RBW/2 so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = k * (Span / RBW)" with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Remark2: only the worst case data displayed in this report.

8.1. Test Plots

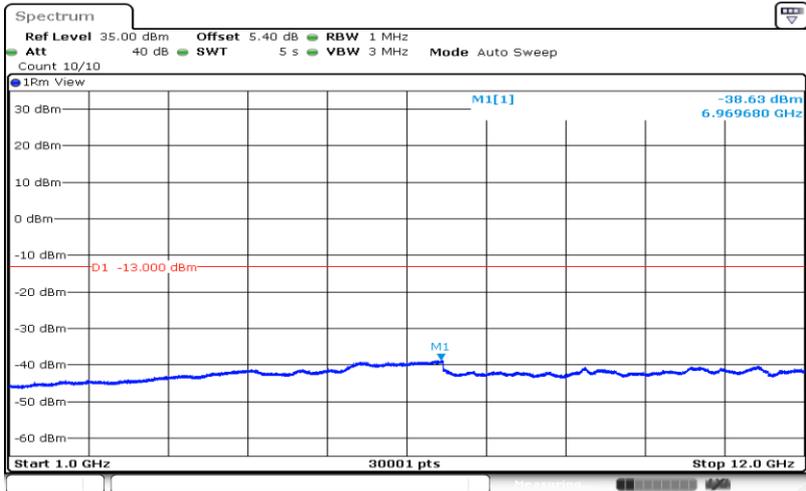


Band71-20MHz-QPSK-133322-1RB#0-Range1:30~1000MHz



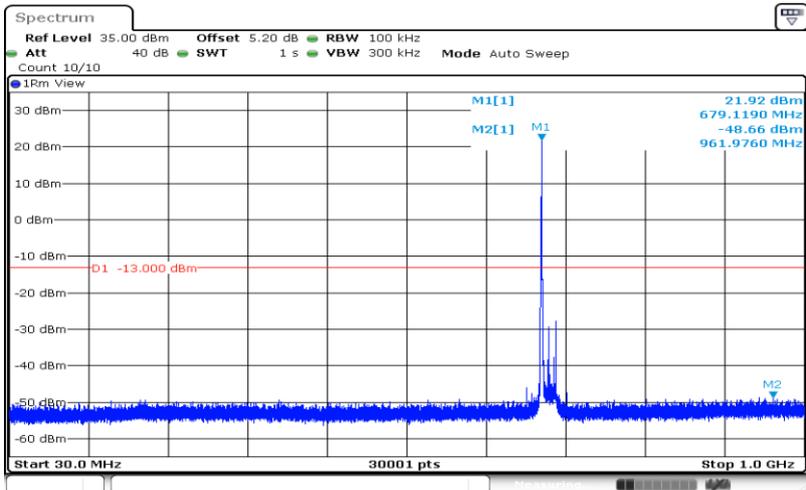
Date: 18.OCT.2019 03:18:20

Band71-20MHz-QPSK-133322-1RB#0-Range2:1000~12000MHz



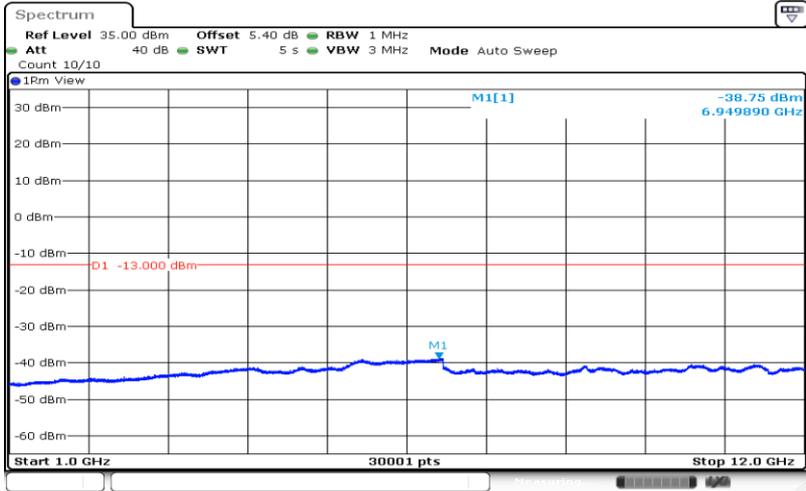
Date: 18.OCT.2019 03:19:28

Band71-20MHz-QPSK-133372-1RB#0-Range1:30~1000MHz



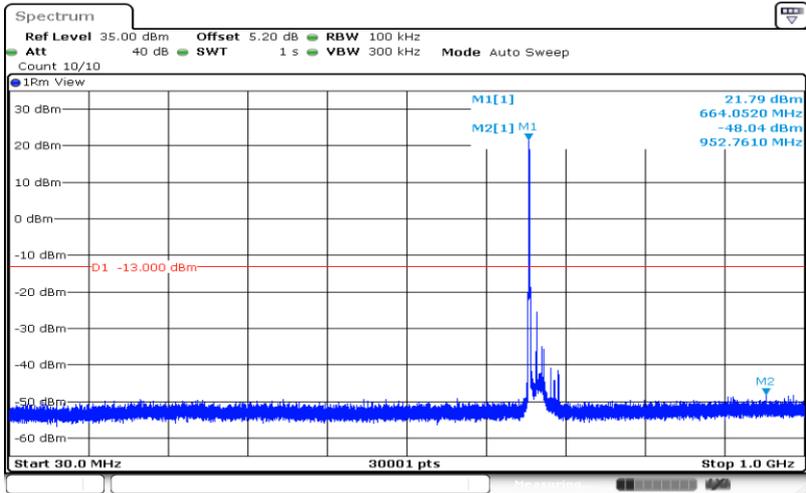
Date: 18.OCT.2019 03:21:14

Band71-20MHz-QPSK-133372-1RB#0-Range2:1000~12000MHz



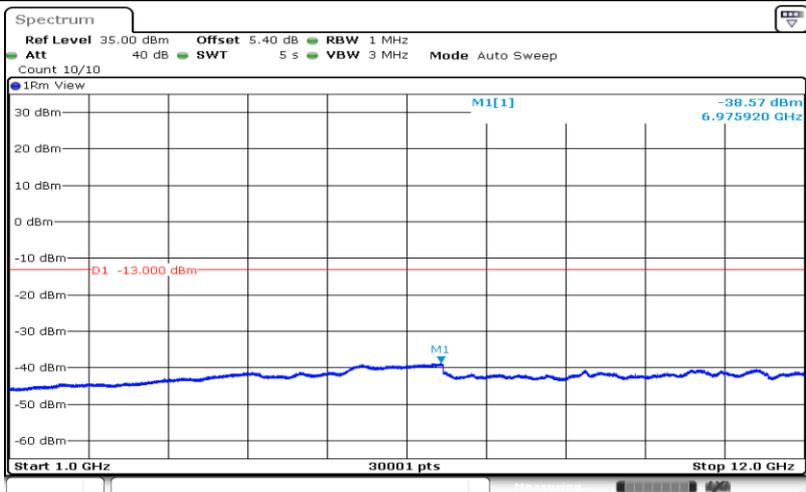
Date: 18.OCT.2019 03:22:21

Band71-20MHz-16QAM-133222-1RB#0-Range1:30~1000MHz



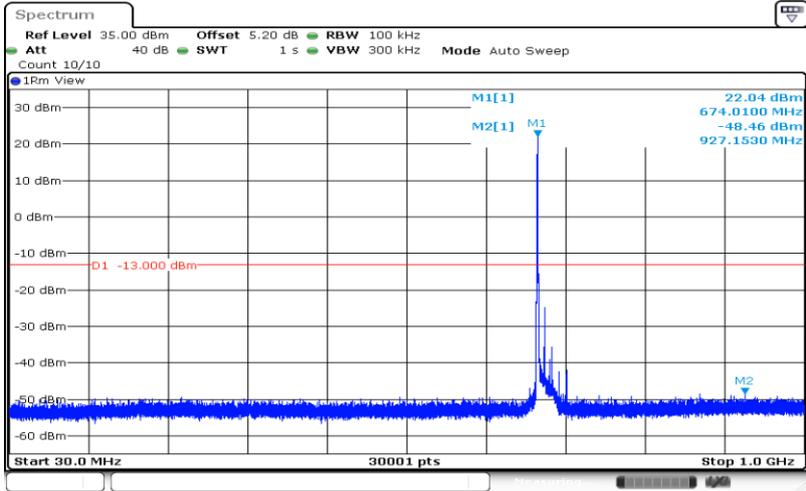
Date: 18.OCT.2019 03:16:54

Band71-20MHz-16QAM-133222-1RB#0-Range2:1000~12000MHz



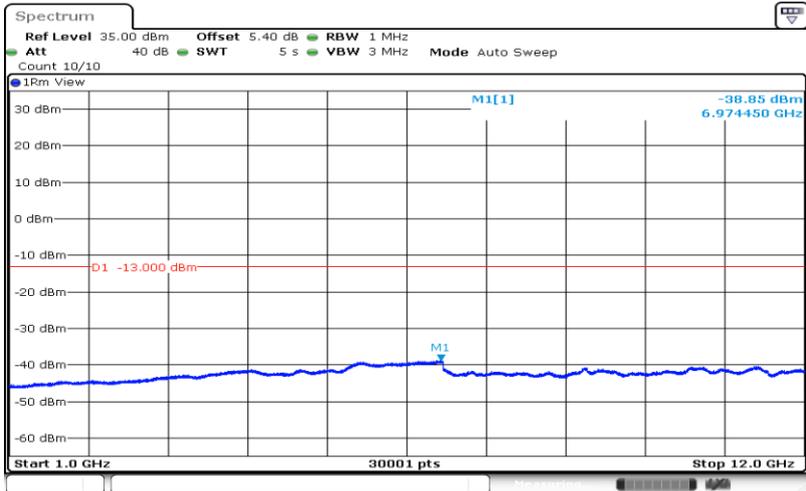
Date: 18.OCT.2019 03:18:01

Band71-20MHz-16QAM-133322-1RB#0-Range1:30~1000MHz



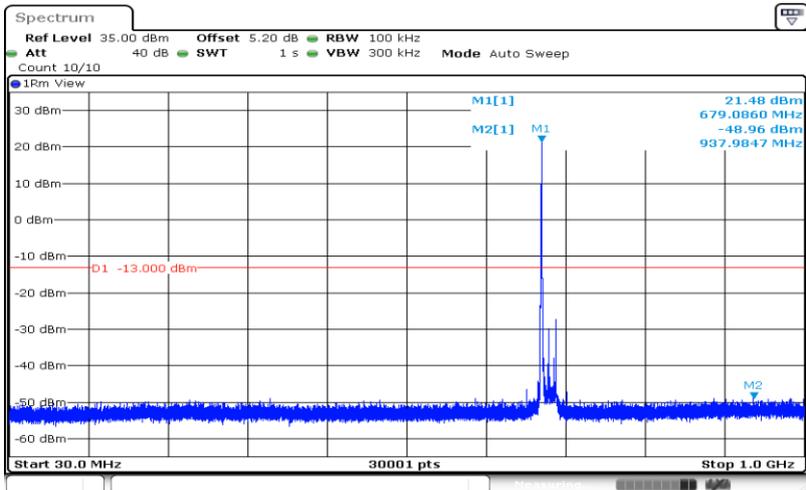
Date: 18.OCT.2019 03:19:47

Band71-20MHz-16QAM-133322-1RB#0-Range2:1000~12000MHz



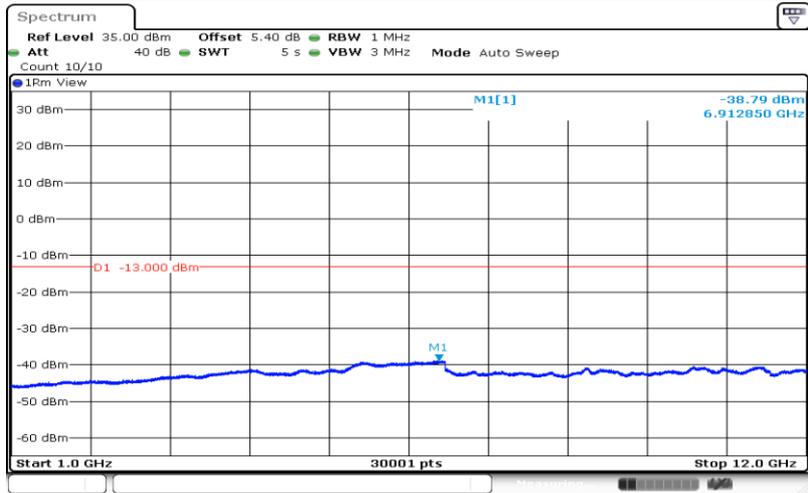
Date: 18.OCT.2019 03:20:54

Band71-20MHz-16QAM-133372-1RB#0-Range1:30~1000MHz



Date: 18.OCT.2019 03:22:41

Band71-20MHz-16QAM-133372-1RB#0-Range2:1000~12000MHz



Date: 18.OCT.2019 03:23:48

9. Frequency Stability

9.1. Frequency Vs Voltage

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band71	20MHz	QPSK	133222	100RB#0	VL	NT	-6.20	-0.009212	±2.5	PASS
Band71	20MHz	QPSK	133222	100RB#0	VN	NT	-5.30	-0.007875	±2.5	PASS
Band71	20MHz	QPSK	133222	100RB#0	VH	NT	-3.10	-0.004606	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	VL	NT	-8.40	-0.012299	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	VN	NT	-7.70	-0.011274	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	VH	NT	-10.80	-0.015813	±2.5	PASS
Band71	20MHz	QPSK	133372	100RB#0	VL	NT	-11.50	-0.016715	±2.5	PASS
Band71	20MHz	QPSK	133372	100RB#0	VN	NT	-7.00	-0.010174	±2.5	PASS
Band71	20MHz	QPSK	133372	100RB#0	VH	NT	-8.90	-0.012936	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	VL	NT	0.10	0.000149	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	VN	NT	-1.10	-0.001634	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	VH	NT	-9.10	-0.013522	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	VL	NT	-4.20	-0.006149	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	VN	NT	-3.40	-0.004978	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	VH	NT	-3.10	-0.004539	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	VL	NT	-11.40	-0.016570	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	VN	NT	-4.10	-0.005959	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	VH	NT	-7.60	-0.011047	±2.5	PASS

9.2. Frequency Vs Temperature

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band71	20MHz	QPSK	133222	100RB#0	NV	-30	-6.70	-0.009955	±2.5	PASS
Band71	20MHz	QPSK	133222	100RB#0	NV	-20	-3.60	-0.005349	±2.5	PASS
Band71	20MHz	QPSK	133222	100RB#0	NV	0	-4.00	-0.005944	±2.5	PASS
Band71	20MHz	QPSK	133222	100RB#0	NV	10	-9.90	-0.014710	±2.5	PASS
Band71	20MHz	QPSK	133222	100RB#0	NV	20	-6.00	-0.008915	±2.5	PASS
Band71	20MHz	QPSK	133222	100RB#0	NV	30	-7.30	-0.010847	±2.5	PASS
Band71	20MHz	QPSK	133222	100RB#0	NV	40	-4.50	-0.006686	±2.5	PASS
Band71	20MHz	QPSK	133222	100RB#0	NV	50	-8.40	-0.012481	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	NV	-30	-13.20	-0.019327	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	NV	-20	-6.30	-0.009224	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	NV	0	-9.60	-0.014056	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	NV	10	-7.40	-0.010835	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	NV	20	-13.20	-0.019327	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	NV	30	-8.20	-0.012006	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	NV	40	-10.60	-0.015520	±2.5	PASS
Band71	20MHz	QPSK	133322	100RB#0	NV	50	-11.20	-0.016398	±2.5	PASS
Band71	20MHz	QPSK	133372	100RB#0	NV	-30	-4.80	-0.006977	±2.5	PASS
Band71	20MHz	QPSK	133372	100RB#0	NV	-20	-11.00	-0.015988	±2.5	PASS
Band71	20MHz	QPSK	133372	100RB#0	NV	0	-13.20	-0.019186	±2.5	PASS
Band71	20MHz	QPSK	133372	100RB#0	NV	10	-4.50	-0.006541	±2.5	PASS
Band71	20MHz	QPSK	133372	100RB#0	NV	20	-10.20	-0.014826	±2.5	PASS
Band71	20MHz	QPSK	133372	100RB#0	NV	30	-4.90	-0.007122	±2.5	PASS
Band71	20MHz	QPSK	133372	100RB#0	NV	40	-10.20	-0.014826	±2.5	PASS

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Band71	20MHz	QPSK	133372	100RB#0	NV	50	-6.40	-0.009302	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	NV	-30	-8.50	-0.012630	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	NV	-20	-5.10	-0.007578	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	NV	0	-6.70	-0.009955	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	NV	10	-7.50	-0.011144	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	NV	20	-7.10	-0.010550	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	NV	30	-11.40	-0.016939	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	NV	40	-7.10	-0.010550	±2.5	PASS
Band71	20MHz	16QAM	133222	100RB#0	NV	50	-5.20	-0.007727	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	NV	-30	-8.00	-0.011713	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	NV	-20	-7.00	-0.010249	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	NV	0	-11.00	-0.016105	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	NV	10	-6.10	-0.008931	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	NV	20	-3.70	-0.005417	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	NV	30	-5.40	-0.007906	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	NV	40	-10.70	-0.015666	±2.5	PASS
Band71	20MHz	16QAM	133322	100RB#0	NV	50	-11.10	-0.016252	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	NV	-30	-5.90	-0.008576	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	NV	-20	-13.40	-0.019477	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	NV	0	-9.70	-0.014099	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	NV	10	-4.50	-0.006541	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	NV	20	-9.80	-0.014244	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	NV	30	-6.10	-0.008866	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	NV	40	-5.40	-0.007849	±2.5	PASS
Band71	20MHz	16QAM	133372	100RB#0	NV	50	-8.90	-0.012936	±2.5	PASS

The End